FILE NO

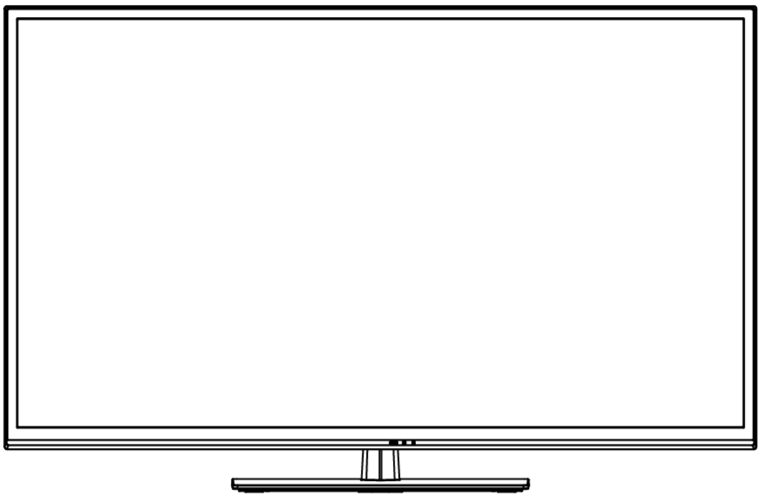
SERVICE MANUAL

LED TV

TC-L39B6

TC-L39B6X

TC-L39B6P



CONTENTS

Attention: This service manual is only for service personnel to take reference with. Before servicing please read the following points carefully.

Safety precautions

1. Instructions

Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire Anti static measures to be taken (throughout the entire production process!):

a) Do not touch here and there by hand at will;
b) Be sure to use anti static electric iron;
c) It's a must for the welder to wear anti static gloves.

Please refer to the detailed list before replacing components that have special safety requirements. Do not change the specs and type at will.

2. Points for attention in servicing of LED

2.1 Screens are different from one model to another and therefore not interchangeable. Be sure to Use the screen of the original model for replacement.

2.2 The operation voltage of LED screen is high voltage. Be sure to take proper measures in protecting yourself and the machine when testing the system in the course of normal operation or right after the power is switched off. Please do not touch the circuit or the metal part of the module That is in operation mode. Relevant operation is possible only one minute after the power is switched off.

2.3 Do not use any adapter that is not identical with the TV set. Otherwise it will cause fire or damage to the set.

2.4 Never operate the set or do any installation work in bad environment such as wet bathroom, laundry, kitchen, or nearby fire source, heating equipment and devices or exposure to sunlight etc. Otherwise bad effect will result.

2.5 If any foreign substance such as water, liquid, metal slices or other matters happens to fall into the module, be sure to cut the power off immediately and do not move anything on the module lest it should cause fire or electric shock due to contact with the high voltage or short circuit.

2.6 Should there be smoke, abnormal smell or sound from the module, please shut the power off at once. Likewise, if the screen is not working after the power is on or in the course of operation, the power must be cut off immediately and no more operation is allowed under the same condition.

2.7 Do not pull out or plug in the connection wire when the module is in operation or just after the power is off because in this case relatively high voltage still remains in the capacitor of the driving circuit. Please wait at least one minute before the pulling out or plugging in the connection wire.

2.8 When operating or installing LED please don't subject the LED components to bending, twisting or extrusion, collision lest mishap should result.

2.9 As most of the circuitry in LED TV set is composed of CMOS integrated circuits, it's necessary to pay attention to anti statics. Before servicing LED TV make sure to take anti static measure and ensure full grounding for all the parts that have to be grounded.

2.10 There are lots of connection wires between parts behind the LED screen. When servicing or moving the set please take care not to touch or scratch them. Once they are damaged the screen would be unable to work and no way to get it repaired.

If the connection wires, connections or components fixed by the thermo tropic glue need to disengage when service, please soak the thermo tropic glue into the alcohol and then pull them out in case of damage.

2.11 Special care must be taken in transporting or handling it. Exquisite shock vibration may lead to breakage of screen glass or damage to driving circuit. Therefore it must be packed in a strong case before the transportation or handling.

2.12 For the storage make sure to put it in a place where the environment can be controlled so as to prevent the temperature and humidity from exceeding the limits as specified in the manual. For prolonged storage, it is necessary to house it in an anti-moisture bag and put them altogether in one place. The ambient conditions are tabulated as follows:

Temperature	Scope for operation	0 ~ + 35 ^{o}C
	Scope for storage	-20 ~ + 60^{o}C
Humidity	Scope for operation	20% ~ 80 %
	Scope for storage	10% ~ 90%

2.13 Display of a fixed picture for a long time may result in appearance of picture residue on the screen, as commonly called “ghost shadow”. The extent of the residual picture varies with the maker of LED screen. This phenomenon doesn’t represent failure. This “ghost shadow” may remain in the picture for a period of time (several minutes). But when operating it please avoid displaying still picture in high brightness for a long time.

3. Points for attention during installation

3.1 The front panel of LED screen is of glass. When installing it please make sure to put it in place.
3.2 For service or installation it’s necessary to use specified screw lest it should damage the screen.
3.3 Be sure to take anti dust measures. Any foreign substance that happens to fall down between the screen and the glass will affect the receiving and viewing effect
3.4 When dismantling or mounting the protective partition plate that is used for anti vibration and insulation please take care to keep it in intactness so as to avoid hidden trouble.
3.5 Be sure to protect the cabinet from damage or scratch during service, dismantling or mounting.

2. Alignment instructions

(1) Test equipment

VG-859 (YPbPr, VGA, HDMI signal generator)
FLUKE 54200(TV signal generator)
CA310 (white balancer)

(2) Power test

Connect main board, power board and IR board according the wiring diagram, connect the power and press power key (Remote controller or Keypad) button to turn on the TV.

a) Test the pin voltage of P802/power board , the data is shown in table1:

Table1 voltage data of P802

For 39”					
P802	Pin1,2	Pin3,4	Pin5,6,7	Pin8,9	Pin10,11
Voltage	GND	11.4V~12.6V	GND	11.4V~12.6V	4.75V~5.25V

For 39”				
Pin12	Pin13	Pin 14	Pin15	Pin16
On:2.5V~5.25V Off: 0~0.5V	Normal: 2.0~5V Abnormal :0~0.5V	On:2.5V~5.25V Off: 0~0.5V	Duty 5%~100%	NC

(3) Alignment flow-chart

The alignment flow-chart is shown as fig-1

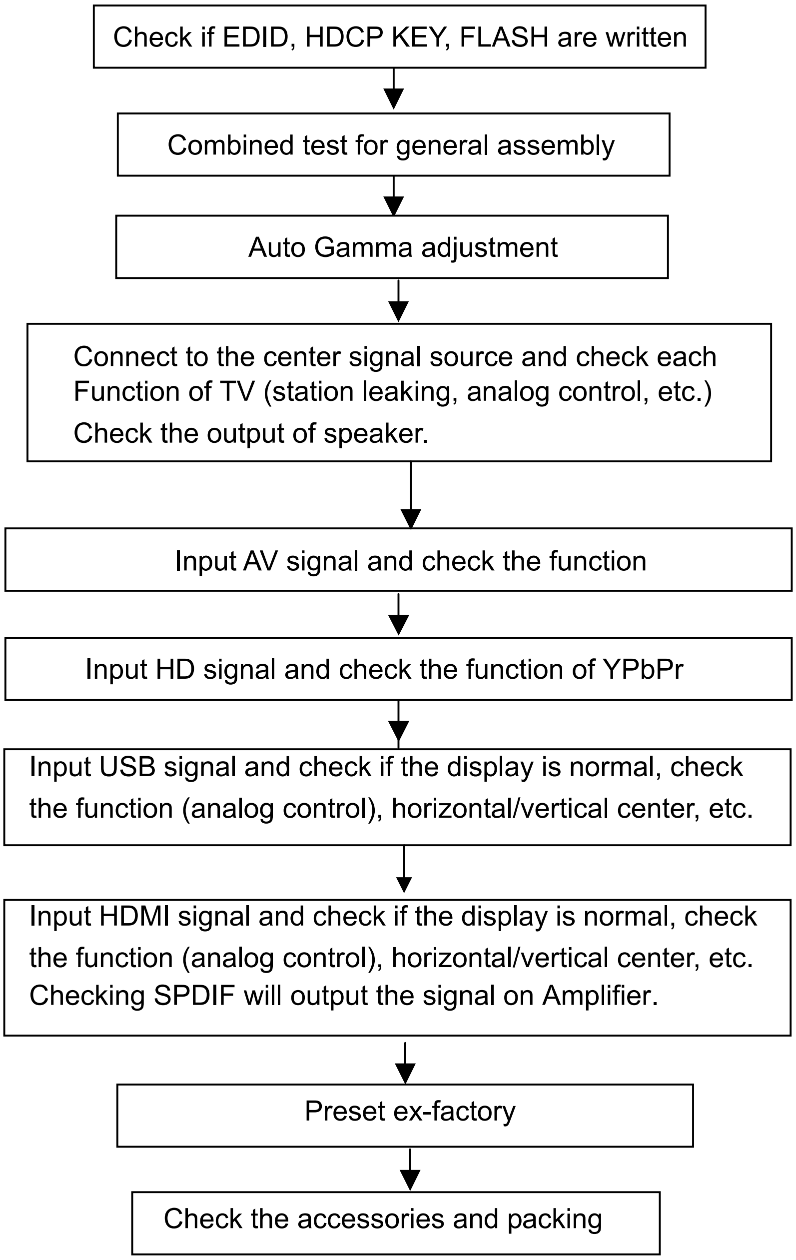


Fig-1 adjustment flow-chart

(4) Adjustment instruction

At any input source then press the “←”, “EXIT” and “OK” (using RC within 1 sec) to enter factory mode

During Factory menu, if “EXIT” key is pushed, system will exit factory mode.

4-1. Auto Gamma Adjustment & Check

4-2.1. Set into factory mode then choose Auto Gamma Adjust,

4-2.2. Press "2" "3" "2" "4" in turn within 1sec to enter the item, and push Init will self-generate gray pattern for adjusting.



4-2.3. Following the Cool spec as bellow.

Color	Cool	
x	100IRE	0.2662
	50IRE	0.2658
y	100IRE	0.2667
	50IRE	0.2654
Adjust Tolerance	±0.005	

(1) Adjust 100IRE
First, Decrease G to meet y spec(0.2667).
Second, Decrease R to meet x spec(0.2662).
(2) Adjust 50IRE
First, Decrease G to meet y spec(0.2654).
Second, Decrease R to meet x spec(0.2658).
Note: Do not adjust the B GAIN on both 100IRE and 50IRE.
When match the spec, pressing “Save” then exit the adjustment page.

(3) When match the spec, pressing right key in "Save" position then exit the adjustment page.

4-2.4. Exit Factory Mode:
After finish Gamma adjust press [EXIT] to exit factory mode.

(5) Items of Factory menu

When in any source, press the “Left -> Exit -> OK” key of remote control can enter into factory mode.
During Factory menu, only “EXIT” key is pushed, system will exit factory mode.
Press up and down key can move high light item from Model Change -> Color Temp. Adjust -> Auto Gamma Adjust -> Timer Clear -> Preset Channel -> Full Power -> ADC Calibration -> Shipping reset -> Bypass Gamma -> UART Enable -> I2C -> Boot Loader Upgrade -> V-Com Adjust -> SG Pattern.
Push “Enter” key can enter high light item function. (Press left and right can adjust value)
Display Model version, Release Date, firmware version and released date on the bottom.



1)Model ID
Press up or down key can select high light item function
Press enter or right key to enter the item.
It's only used for FW engineer.

2)Color Temp. Adjust
Press up or down key can select high light item function
Press enter or right key to enter the item.
It's only used for PQ engineer.

3)Auto Gamma Adjust
Press up or down key can select high light item function
Press enter or right key to enter the item.
It's only used for PQ engineer.

4)Timer Clear
Reset the timer which records hours of LED panel burn in
This item will have a check dialog “yes or no” to do or not.
- Time in factory mode: Time function shall be displayed automatically. Saving the total time of system power on (LED turn on), and count the time automatically. The timer is continuous and saved (per 10 minutes) forever, unless it will be reset by doing “Timer Clear”.

5)Preset channel
Load preset channel for production line.

6)Full Power
This is for power consumption testing.
To measure the maximum power consumption of TV set, we adjust the value of following items to maximum.
- Video: Contrast maximum value, Brightness maximum value, Backlight maximum value.
- Audio: Volume maximum value, Bass default value, Treble default value.
Press enter key to turn on Full Power and OSD stay display until press enter key to recover from Full Power.

7)ADC Calibration
ADC Calibration function is reserved for calibration by hand (PQ engineer only).

8)Shipping reset
Reset all settings of OSD menu to default value.
Reset settings: Channel table, Model table (H/V Position, Clock, Phase), Source dependent setting (Contrast, Brightness etc.), Common setting (Volume, Language etc.), Parental Control (Rating, Password etc), Closed Caption.

9)Bypass Gamma
For factory test value of gamma.

10)UART Enable
Enable to communicate with Auto-Alignment system.

11)I2C
Enable to communicate with Eeprom burn-in tool.

12)Boot Loader Upgrade
For firmware downgrade used.

13)V-Com Adjust
It's reserved for BMS function.

14)SG Pattern
Aging is for factory burn in and PTN ID provides each pattern for tester using.

(6) Performance check

6-1 TV function
Connect RF to the center signal source, enter Channel menu → auto tuning, check if there are channels be skipped, check if the picture and speaker are normal.

6-2 AV terminals
Input Video signal, check if the picture and sound are normal.

6-3 YPbPr terminal
Input YUV signal (VG859 signal generator), separately input the YUV signals listed in table4 and check if the display and sound are normal at any situation (power on, channel switch and format convert, etc.)

Table4 YUV signal format

MODE	FREQ	PERIOD	SYNC POLARITY	PIXEL CLOCK	Display	SYNC WIDTH	BACK PORCH
	LINE(kHz) FRAME (Hz)	LINE (pixel) FIELD (lines)	LINE FIELD	(MHz)	LINE (pixel) FRAME (lines)	LINE (pixel) FRAME (lines)	LINE (pixel) FRAME (lines)
	15.734	1716	Negitive	27	1440	124	114
59.94Hz 720x480i	59.94	525	Negitive		480	3	15
	31,469	858	Negitive	27	720	62	60
59.94Hz 720x480P	59.94	525	Negitive		480	6	30
	45	1650	Positive	74.25	1280	40	220
60Hz 1280x720P	60	750	Positive		720	5	20
	33.75	2200	Positive	74.25	1920	44	148
60Hz 1920X1080i	60	1125	Positive		1080	5	15
	67.5	2200	Positive	148.5	1920	44	148
60Hz 1920X1080P	60	1125	Positive		1080	5	36

6-4 HDMI terminal

Input HDMI signal (VG859 signal generator), separately input the signals listed in table6 and check the display and sound (32 KHz, 44.1 KHz, 48 KHz) at any situation (power on, channel switch and format convert, etc.)

Table6 HDMI signal format

HDMI 1/2/ DVI Timing Table	FREQ	FREQ	PERIOD	SYNC POLARITY	PIXEL CLOCK	Display	SYNC WIDTH	BACK PORCH
	MODE	LINE(kHz) FRAME(Hz)	LINE (pixel) FIELD(lines)	LINE FIELD	(MHz)	LINE (pixel) FRAME (lines)	LINE (pixel) FRAME (lines)	LINE (pixel) FRAME (lines)
		31.47	800	Negitive	25.175	640	96	48
	640x480	59.94	525	Negitive		480	2	33
		37.88	1056	Positive	40	800	128	88
	800x600	60.32	628	Positive		600	4	23
		48.36	1344	Negitive	65	1024	136	160
	1024x768	60	806	Negitive		768	6	29
		47.4	1440	Positive	68.25	1280	32	80
	1280x768 (1280cvt)	59.99	790	Negitive		768	7	12
		47.78	1664	Negitive	79.5	1280	128	192
	1280x768	59.87	798	Positive		768	7	20
		63.98	1688	Positive	108	1280	112	248
	1280x1024	60.02	1066	Positive		1024	3	38
		47.71	1792	Positive	85.5	1360	112	256
	1360x768	60.02	795	Positive		768	6	18
		47.71	1792	Positive	85.5	1366	112	256
	1366x768	59.79	795	Positive		768	6	18
		67.5	2200	Positive	148.5	1920	44	148
	1920x1080	60	1125	Positive		1080	5	36
		15.73	1716	Negitive	27	1440	124	114
	59.94Hz 1440x480i	59.94	262.5	Negitive		480	3	15
		31.47	858	Negitive	27	720	62	60
	59.94Hz 720x480P	59.94	525	Negitive		480	6	30
		45	1650	Positive	74.25	1280	40	220
	60Hz 1280x720P	60	750	Positive		720	5	20
		33.75	2200	Positive	74.25	1920	44	148
	60Hz 1920X1080i	60	562.5	Positive		1080	5	15
		27	2750	Positive	74.25	1920	44	148
	24Hz 1920x1080P	24	1125	Positive		1080	5	36
		33.75	2200	Positive	74.25	1920	44	148
	30Hz 1920x1080P	30	1125	Positive		1080	5	36
		67.5	2200	Positive	148.5	1920	44	148
	60Hz 1920X1080P	60	1125	Positive		1080	5	36

6-5 other functions check

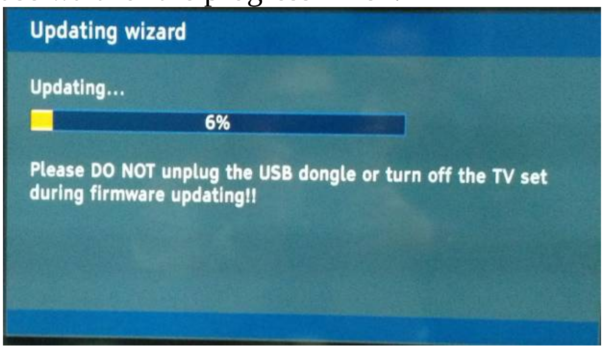
a) Check the sleep timer, picture/sound mode, OSD, stereo and analog TV Teletext, etc.

(7) Firmware update process

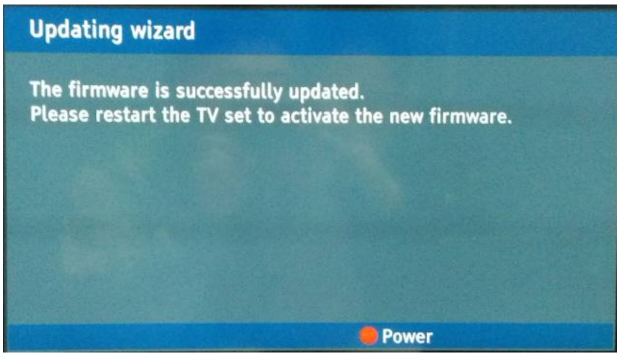
(1) Plug the USB with the firmware file named upgrade_2013_NA_60.pkg
(2) If system detect upgrade_2013_NA_60.pkg, USB upgrade message would appear automatically.
(3) Press Up key to select Yes, and then press OK key to start the upgrading.



(4) Upgrading is starting, please wait for the progress finish.



(5) When the progress completed, please follow the instruction to remove USB and restart Power off then on.



3. Working principle analysis of the unit

1. NTSC signals flow:

Antenna signal will be send to tuner TDST-H021F, then Tuner will be demodulating and output standard video signal TV-CVBS, and sound SIF signal.

TV-CVBS will send to the master control IC MT5385 to video decode, de-interlace and scaler, then output LVDS level drive for panel display.

The sound IF (SIF) will be fed into MT5385, after demodulating, pre-amplifying, bass adjusting and volume control, the sound signal will be transform into digital I2S signal and sent to digital amplifier TAS5707.

2. Composite/Component signal flow

Composite signal and Component signal will be fed to MT5385 to perform video decode, de-interlace and scaler, then output LVDS drive level for panel display.

Audio signal from Composite/Component terminal via matched resistance is fed to MT5385 to bass adjust and volume control, the sound signal will be transform into digital I2S signal and sent to digital amplifier TAS5707.

3. HDMI signal flow

Two HDMI video signals are directly fed to the master control IC MT5385 to digital decode, image scale, then output LVDS drive level for panel display. HDMI audio signal via decoder built-in MT5385 to bass adjust and volume control, the sound signal will be transform into digital I2S signal and sent to digital amplifier TAS5707.

4. USB signal flow

USB signal via USB connector sent to MT5385 and its A/D conversion to YPbPr output for MT5385, then output R/G/B of 24 bit to back end module to Video decode, de-interlace and image scale, then send to LVDS level drive for panel display.

Sound signal of USB signal via matched resistance and sent to MT5385 to bass adjust and volume control, the sound signal will be transform into digital I2S signal and sent to digital amplifier TAS5707.

5. SPDIF signal flow

The master control IC MT5385 will transfer digital sound signal out by format Dobly Digital or PCM.

4. Specifications

Specifications

Power rating

AC 110-127 V, 60 Hz

Rated Power Consumption

39” : 91 Watts

Standby condition

39” : 0.3 Watts

Visible screen size (diagonal)

39” class : 38.5 inch (98cm)

Number of pixels

39” FHD (1920X1080)

Dimensions (W × H × D) (Including Stand)

39” : 35.3” × 23.7” × 8.6” (896 mm × 602 mm × 217 mm)

Net Weight

39” : 24.3lb. (11 kg) (Including Stand)
39” : 20.9lb. (9.5 kg) (TV only)

Sound System

1-way 2 bottom SP System

Channel Capability-ATSC/NTSC (Digital/Analog)

VHF/UHF: 2 - 69, CATV: 1 - 135

Sound Output

39” : 10W+10W

Maximum Visible Range

39” : 33.7” × 19.0” (856 mm x 482 mm)

Operating Conditions

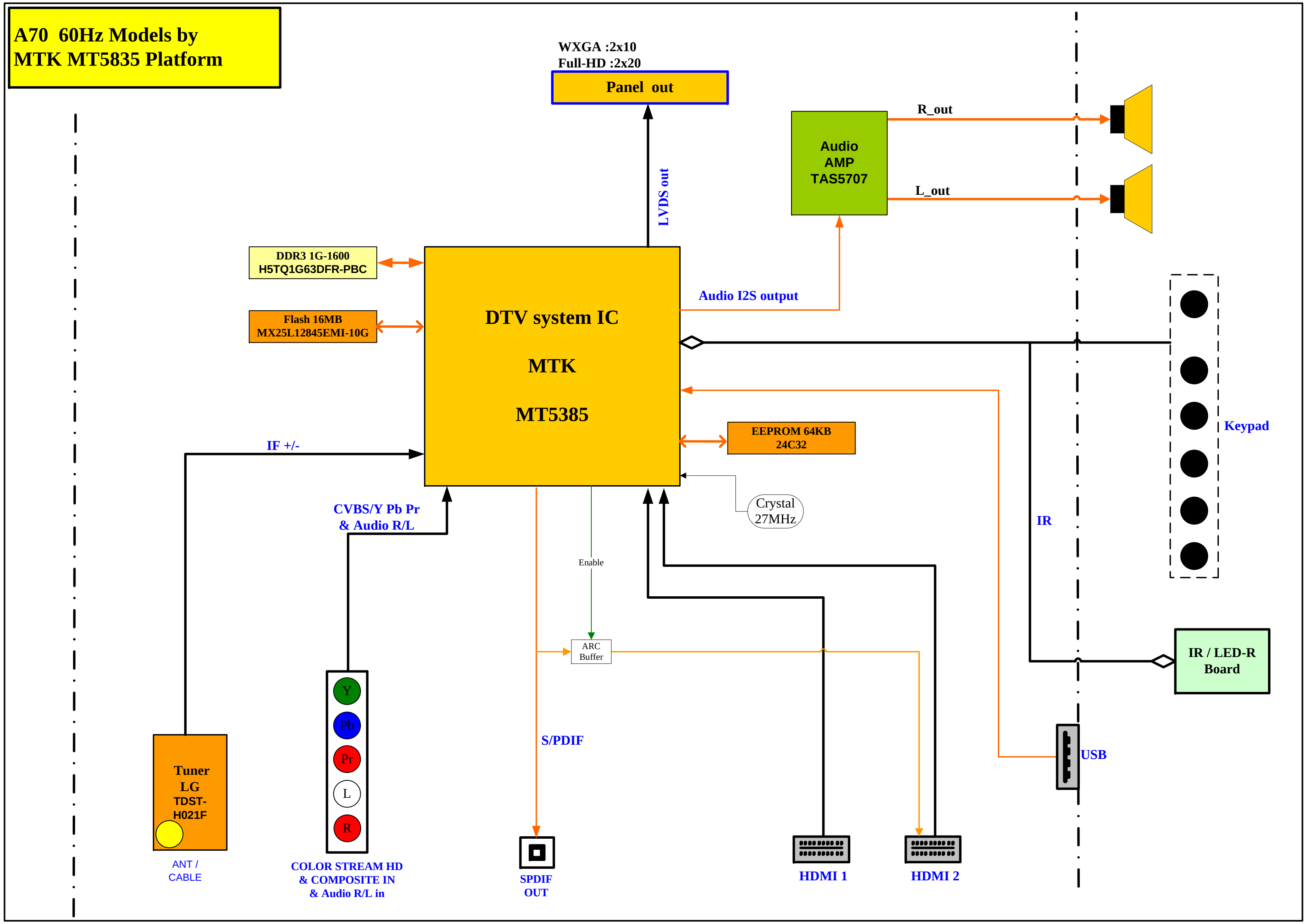
Temperature: 32° F - 95° F(0°C to 35°C)
Humidity: 20 % - 80 % RH (non-condensing)

- Specifications are subject to change without notice.
- The On-Screen Menu and figures in this manual may differ slightly from the product.
- USB Flash Memory format : FAT16, FAT32 (no support exFAT or NTFS).
- Some USB devices (USB HUB or card adapter) or some USB stick may not be used with this TV.

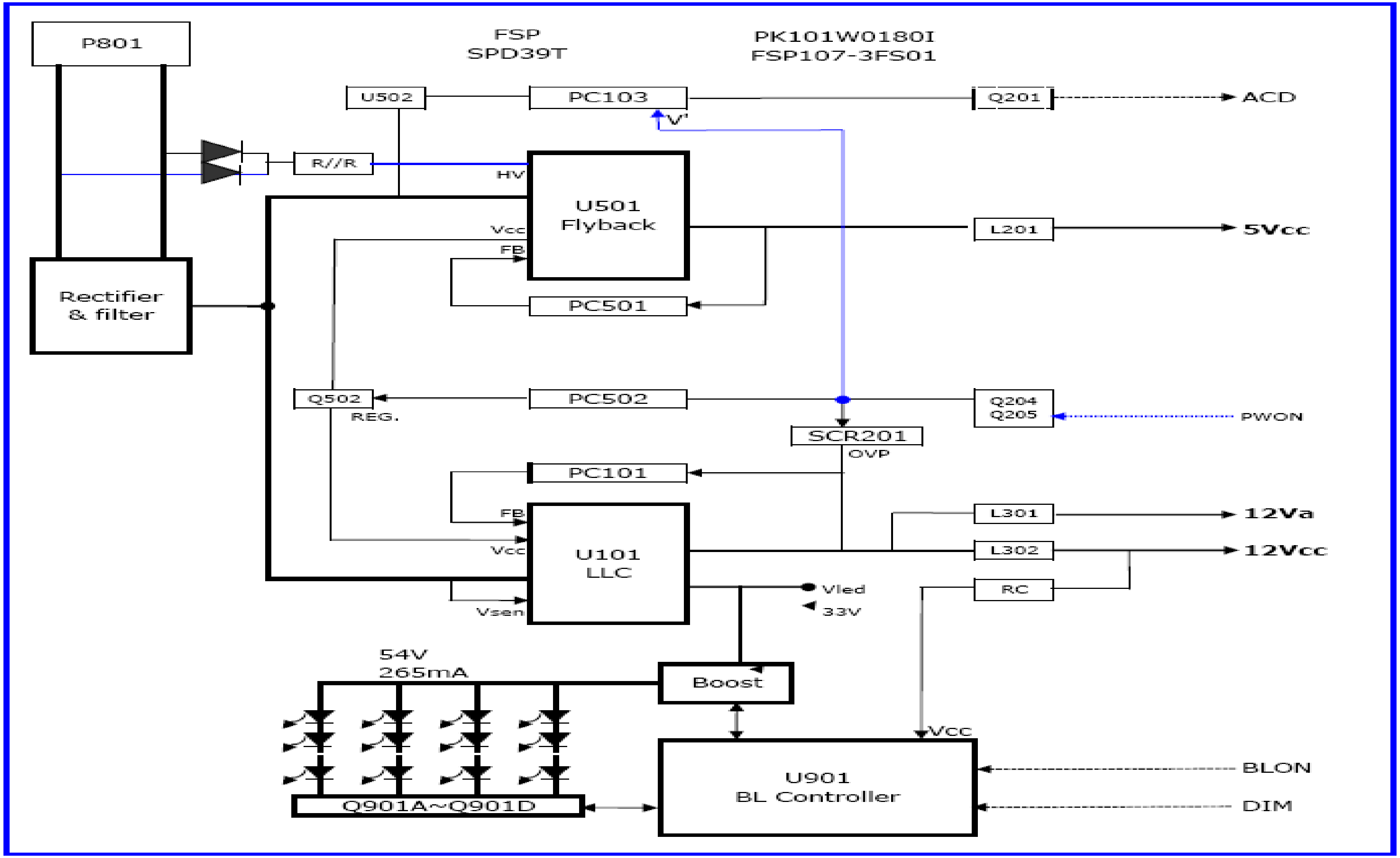
SPD39T 39” Block Diagram

5-1 Block Diagram

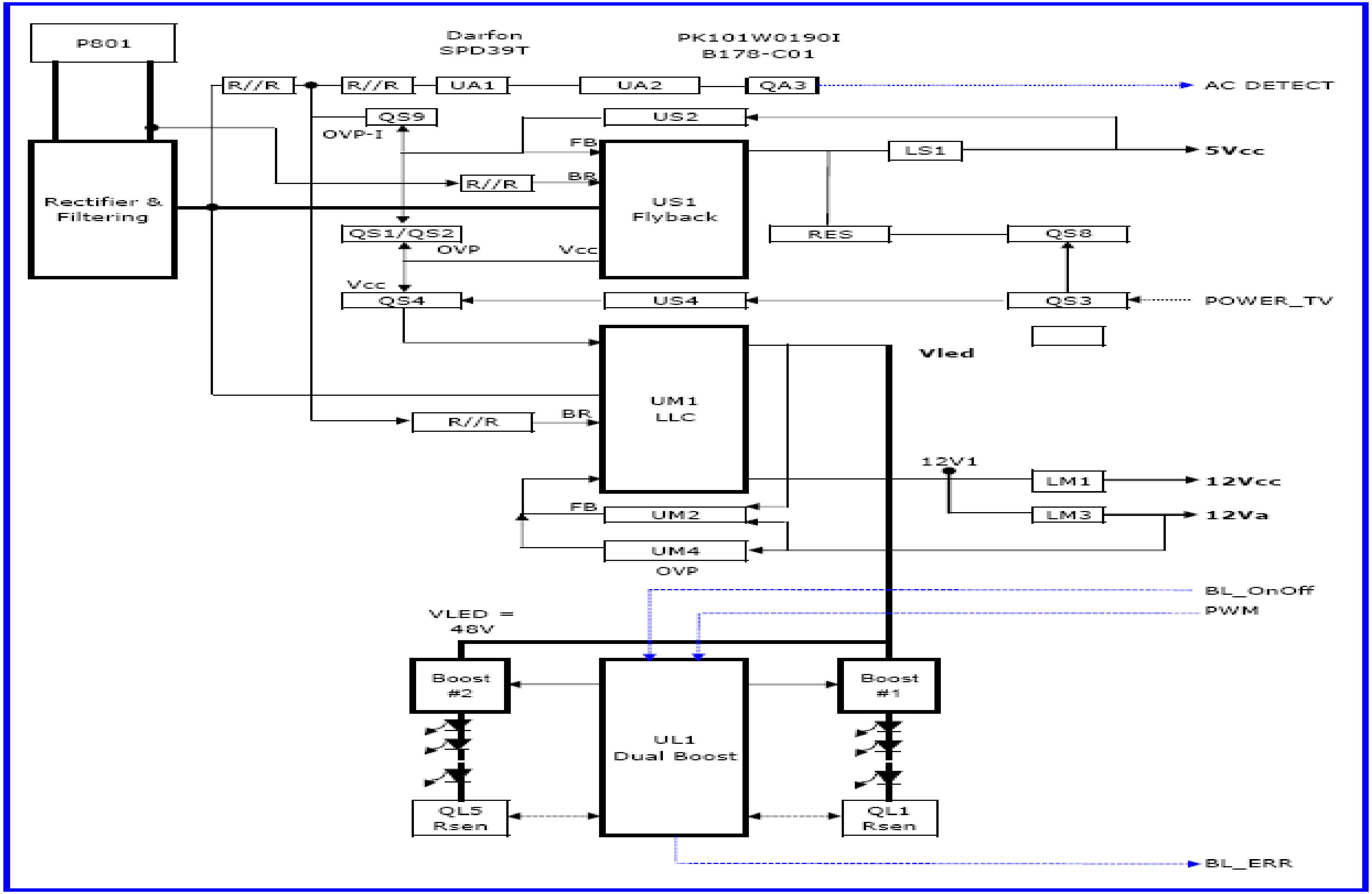
EE:



Power Board: FSP



Power Board: DARFON



6. IC block diagram

1. MT5385

GENERAL FEATURE LIST

Host CPU

- ARM11 single core 700MHz
- Floating Point Unit
- 16K I-Cache and 16K D-Cache for ARM11 core
- 128K L2 Cache
- Boot ROM
- Boot from serial flash, NAND flash
- Supports security boot
- JTAG ICE interface
- Watch Dog timers

General Copy Protection Unit

- Supports CPPM/CPRM
- Supports AES with 128/192/256 bit key
- Supports AACS
- Supports DES/3DES
- Supports SHA-1/224/256
- Supports MD5
- Supports CSS
- Supports RC4
- Random number generator

MPEG1 Decoder

MPEG2 Decoder

- MPEG MP@ML, MP@HL
- Supports de-blocking filter
- Full-HD 30P dual decoder

MPEG4 Decoder (option)

- ASP@L5
- Full-HD 30P dual decoder

H.264 (MPEG4.10 / AVC) HD Decoder (option)

- MP@L4.0, HP@L4.0, constrained BP@L3 video standard
- Full-HD 30P dual decoder

VC-1 (SMPTE421M) Decoder (option)

- MP@HL, AP@L3
- WMV9 decoder MP@HL
- Full-HD 30P dual decoder

DivX (XviD) Decoder (option)

DIVX3 / DIVX4 / DIVX5 / DIVX6 / DIVX HD
Full-HD 30P dual decoder

AVS Decoder (option)
Jizhun profile @Level 6.2 (supports 4:2:0 format)
Full-HD 30P dual decoder

RMVB Decoder (option)
RealVideo8/9/10
Full-HD 30P dual decoder

VP6 Decoder (option)

VP8 Decoder (option)
Supports 3D side-by-side Full-HD contents
Full-HD 30P dual decoder

MVC
H.264 stereo high profile Full-HD 60fps

Still Image decoding
JPEG decoder (base-line or progressive), hardware accelerator
BMP/PNG/JIF decoder

De-mosquito engine
For all AV inputs

2D Graphics
Supports multiple color modes
Point, horizontal/vertical line primitive drawings
Rectangle fill and gradient fill functions
Bitblt with transparent options
Alpha blending and optional pre-multiplied alpha composition Bitblt
Stretch Bitblt
YCbCr to RGB color space conversion
Supports index to direct mode bitblt

Image Resizer
Supports 16bpp/32bpp direct color format
Supports 420/422 video format
Supports 420/422/444 JPEG format
Arbitrary ratio vertical/horizontal scaling of video, from 1/128X to 128X
Simple DMA
Supports MMU in OSD mode

OSD Plane
Three linking list OSDs with multiple color mode and all of them have up-scaler
Supports stereo OSD

Video Plane

- Supports video freeze and over scan
- Flesh tone management
- Gamma correction
- Color Transient Improvement (CTI)
- 2D Peaking
- Saturation/hue adjustment
- Brightness and contrast adjustment
- Black and White level extender
- Adaptive Luma management
- Automatic detect video, film and mixed-mode source
- 3:2/2:2 pull down source detection
- Supports FHD motion-adaptive de-interlace
- Supports excellent low angle image processing
- Brilliant boundary shaping for moving object
- Advanced non-linear panorama scaling
- Programmable zoom viewer
- Progressive scan output
- Supports alpha blending for OSD on video plane
- Dithering processing for flat panel display
- Frame rate conversion
- Supports FHD panel and VGA dot-to-dot
- Supports PIP/POP, (dual de-interlace, one HD and one SD)

OD (option)

- Supports 60Hz Full-HD and WXGA panel over drive

TCON (option)

- Flexible timing control with programmable timing
  - Horizontal timing control
  - Vertical timing control
  - Multi-line timing control
  - Multi-frame timing control
- Supports gate power modulation timing
- Supports command-based timing
- Supports POL inversion every 30 seconds
- Supports 1/2/4/8 frame inversion, 1-line inversion, 2-line inversion, and could up to 255-line dot inversion

Local Dimming

- Block division: up to 800 total blocks, up to 100 horizontal blocks
- Supports 50K ~ 50M SPI clock rate

LVDS

- Supports 6/8/10-bit one-link, 6/8/10-bit dual-link LVDS transmitter
- Built-in spread spectrum for EMI performance
- Programmable panel timing output

Mini-LVDS

- Dual port 8-bit 6 pairs mini-LVDS output

CVBS In

- On-chip 54 MHz 10-bit video ADC
- Supports PAL (B,G,D,H,M,N,I,Nc), NTSC, NTSC-4.43, SECAM
- NTSC/PAL supports 3D/2D comb filter
- Built-in motion-adaptive 3D Noise Reduction
- VBI data slicer for CC/TT decoding
- Supports 1 S-Video
- Supports 2 1-channel CVBS
- Supports SCART connector

VGA In

- Supports VGA input up to UXGA 162 MHz
- Supports full VESA standards

Component Video In

- Supports 2 component video inputs
- Supports 480i / 480p / 576i / 576p / 720p / 1080i / 1080p

Audio ADC

- Supports 3 pair L/R input

Audio digital input

- Supports 1 bit (2 channel) I

2

S audio input

HDMI Receiver

- Two channel HDMI1.4a
- Maximum data rate can be up to 3.3 GHz
- Audio return channel
- EIA/CEA-861B
- CEC

Video bypass

- ATV bypass
- CVBS Monitor (any AV or S-video input)

TV audio demodulator

- Supports BTSC / EIA-J / A2 / NICAM / PAL FM / SECAM world-wide

formats

- Standard automatic detection

Stereo demodulation, SAP demodulation
Mode selection (Main/SAP/Stereo)

Audio DAC

Supports 2-pair audio DACs

DRAM Controller

16-bit DDR2/DDR3 interface
Supports DDR2 1066Mhz, DDR3 1333Mhz
Supports 512Mb or 1Gb or 2Gb DDR2 and DDR3 DRAM device
Supports DDR2-1066/DDR3-1333/DDR3-1600 device

Audio DSP

Supports AC-3 (Dolby Digital) decoding (ATSC) and E-AC3 (Dolby Digital Plus) decoding (option)
MPEG-1 layer I/II decoding
Supports WMA / HE-AAC (option)
Support Dolby DDCO, and MS10 (option)
Dolby Prologic II (option)
Audio output: 5.1ch + 2ch (down mix) + 2ch(bypass)
Pink noise and white noise generator
Equalizer
Bass management
3D surround processing with virtual surround
Audio and video lip synchronization
Supports bass/treble
Automatic volume control
Supports 5-bit (10-channel) main audio I

2

S output interface, each of these channels is up to 24-bit resolution

S/PDIF interface

Supports SPDIF in bypass
SPDIF out

Analog TV IF Demodulator

Supports world-wide analog TV standard
Accept direct IF and low IF
Full digital AGC control and carrier recovery
Embedded SAW filter and IF Amplifier. Cost effective TV front-end structure and no more cost on:

External analog SAW filters (Video/Audio)
External analog IF demodulator
External peripheral circuit on CVBS signal data path
External SAW filter and IF VGA on tuner

Digital TV (ATSC / Open-Cable) Demodulator

Compliant with ATSC digital television standard

Supports SCTE DVS-031 and ITU J.83 Annex B digital CATV standard

Accept direct IF (44 MHz or 43.75 MHz) and low IF (5.38 MHz)

NTSC interference rejection capability

Meet all ATSC/A74 requirements

Excellent adjacent and co-channel rejection capability

Dual digital AGC controls for IF and RF, respectively

Full-digital frequency offset recovery with wide acquisition range 500KHz for ATSC and 250 kHz for CATV reception

EIA/CEA-909 antenna interface, both mode A and mode B are supported

Embedded SAW filter and IF Amplifier. Cost effective TV front-end structure and no more cost on:

External analog IF demodulator

External SAW filter and IF VGA on tuner

Peripherals

Seven basic serial interfaces: one is for the tuner, three are the masters for general purpose and two of them can be active in standby mode, one is the slave for VGA DDC, the other two extra slave serial interfaces used for HDMI EDID data

Five PWMs, two of them can be active in standby mode

IR receiver

Real-time clock and watchdog controller

Built-in 2-link USB2.0/1.1, both of them support external hub with 16 endpoints.

Built-in uP for standby mode

Supports SDIO interface

Supports smart card interface

Supports two serial flash or one serial and one NAND flash

Supports 2-input low-speed ADC

Supports boundary scan (JTAG)

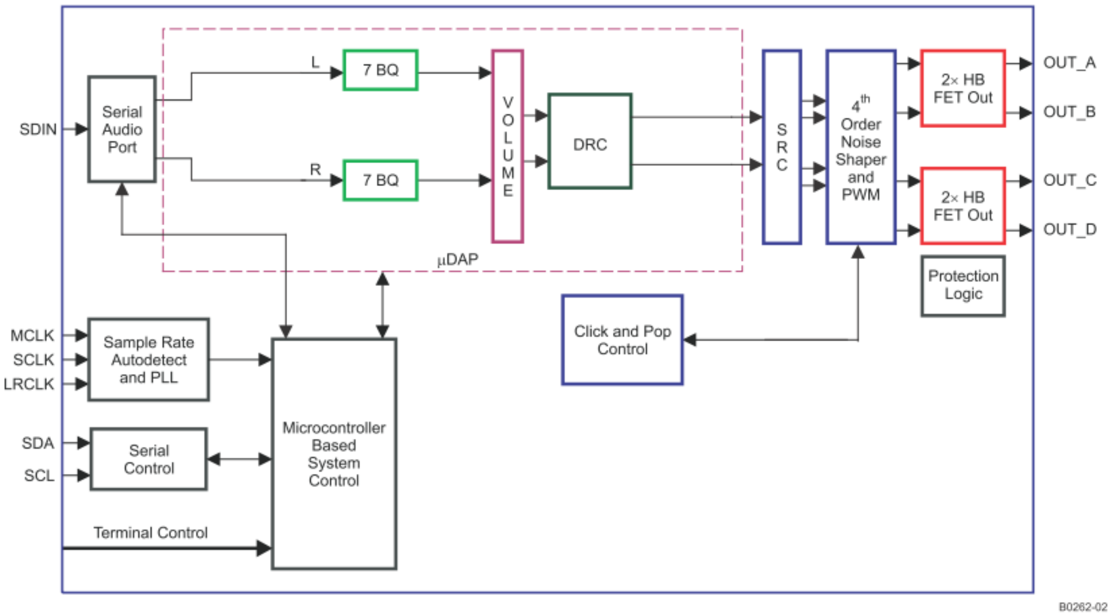
IC Outline

LQFP Package 216 pins with E-pad

3.3V/1.2V and 1.8V for DDR2 or 1.5V for DDR3

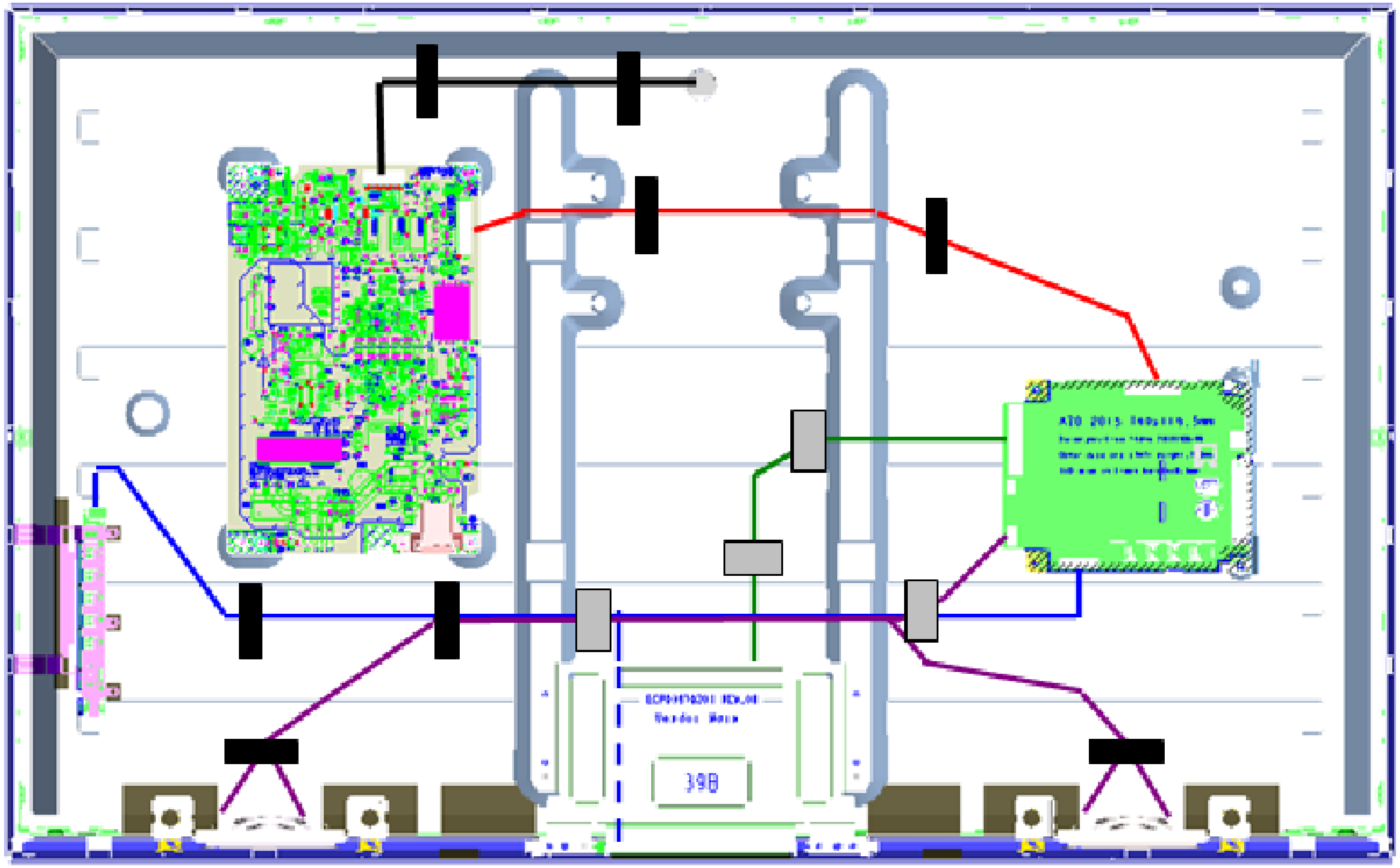
2. TI TAS5707

20-W STEREO DIGITAL AUDIO POWER AMPLIFIER WITH EQ AND DRC



SPD39T 39-inch Wiring Diagram

7-1 BLOCK



7-2 Wiring Connection
LG panel

Main board to Panel				
SPD39T				
Panel side		LVDS cable	Main board CN1	
1	NC	NC		
2	NC	NC		
3	NC	NC		
4	NC	NC		
5	NC	NC		
6	NC	NC		
7	SELLVDS	Yellow	28	LVDS_SEL
8	NC	NC		
9	NC	NC		
10	NC	NC		
11	GND	NC		
12	R1AN	White	40	TX_AO0N
13	R1AP	Black	39	TX_AO0P
14	R1BN	White	38	TX_AO1N
15	R1BP	Brown	37	TX_AO1P
16	R1CN	White	36	TX_AO2N
17	R1CP	Red	35	TX_AO2P
18	GND	Black	15	GND
19	R1CLKN	White	34	TX_AOCKN

Main board to Speaker				
SPD39T				
Main board CN4		Color	Speaker	Right
1	SPK_OUTL+	Red	P3	Speaker +
2	SPK_OUTL-	Black	P2	Speaker -
				Left
3	SPK_OUTR-	Green	P5	Speaker -
4	SPK_OUTR+	White	P4	Speaker +

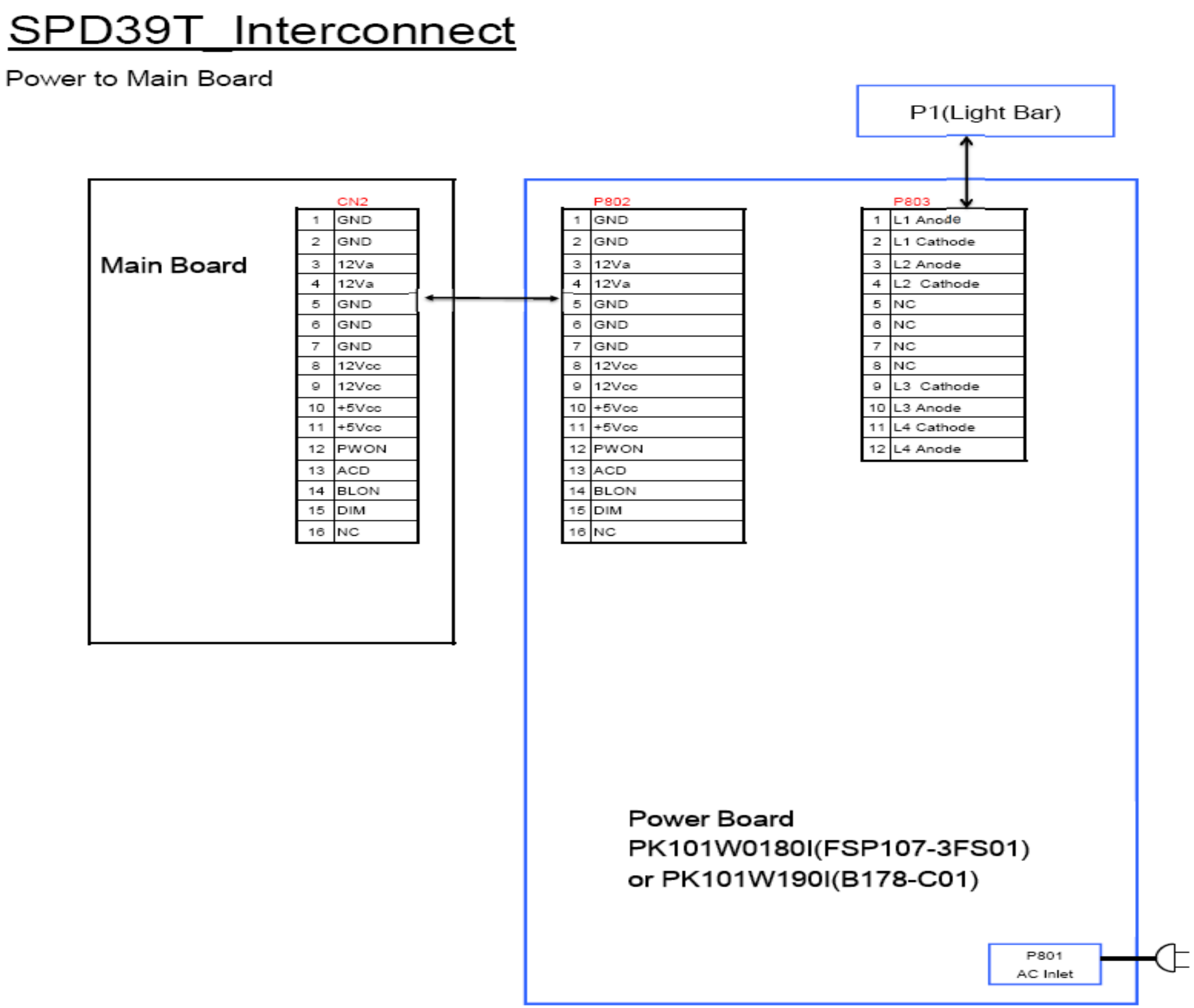
Main board to IR / Key				
SPD39T				
IR board CN1		Color	Main board CN3	
1	VCC3V3_STB	Red	1	3V3STB
2	IRR	White	2	IRR
3	GND	Black	3	GND
4	LED_G	Orange	4	LEDG
		NC	5	LEDR
		NC	6	Light_S_C
		NC	7	Light_S_D
1	GND	Black	8	GND
2	Power	Red	9	Power Key

20	R1CLKP	Orange	33	TX_AOCKP
21	GND	Black	16	GND
22	R1DN	White	32	TX_AO3N
23	R1DP	Yellow	31	TX_AO3P
24	NC	NC		
25	NC	NC		
26	NC	NC		
27	NC	NC		
28	R2AN	White	12	TX_AE0N
29	R2AP	Black	11	TX_AE0P
30	R2BN	White	10	TX_AE1N
31	R2BP	Brown	9	TX_AE1P
32	R2CN	White	8	TX_AE2N
33	R2CP	Red	7	TX_AE2P
34	GND	Black	17	GND
35	R2CLKN	White	6	TX_AECKN
36	R2CLKP	Orange	5	TX_AECKP
37	GND	Black	18	GND
38	R2DN	White	4	TX_AE3N
39	R2DP	Yellow	3	TX_AE3P
40	NC	NC		
41	NC	NC		
42	NC	NC		
43	NC	NC		

3	SAR0	Orange	10	SAR0
4	SAR1	Yellow	11	SAR1

44	GND	Black	25	GND
45	GND	Black	26	GND
46	GND	Black	27	GND
47	NC	NC		
48	VCC	Red	19	LVDS_PWR
49	VCC	Red	20	LVDS_PWR
50	VCC	Red	21	LVDS_PWR
51	VCC	Red	22	LVDS_PWR

Main board to Power board:



8. Trouble shooting

1. Fault clearance

Before calling your dealer or service center for assistance, check the matters below once again.

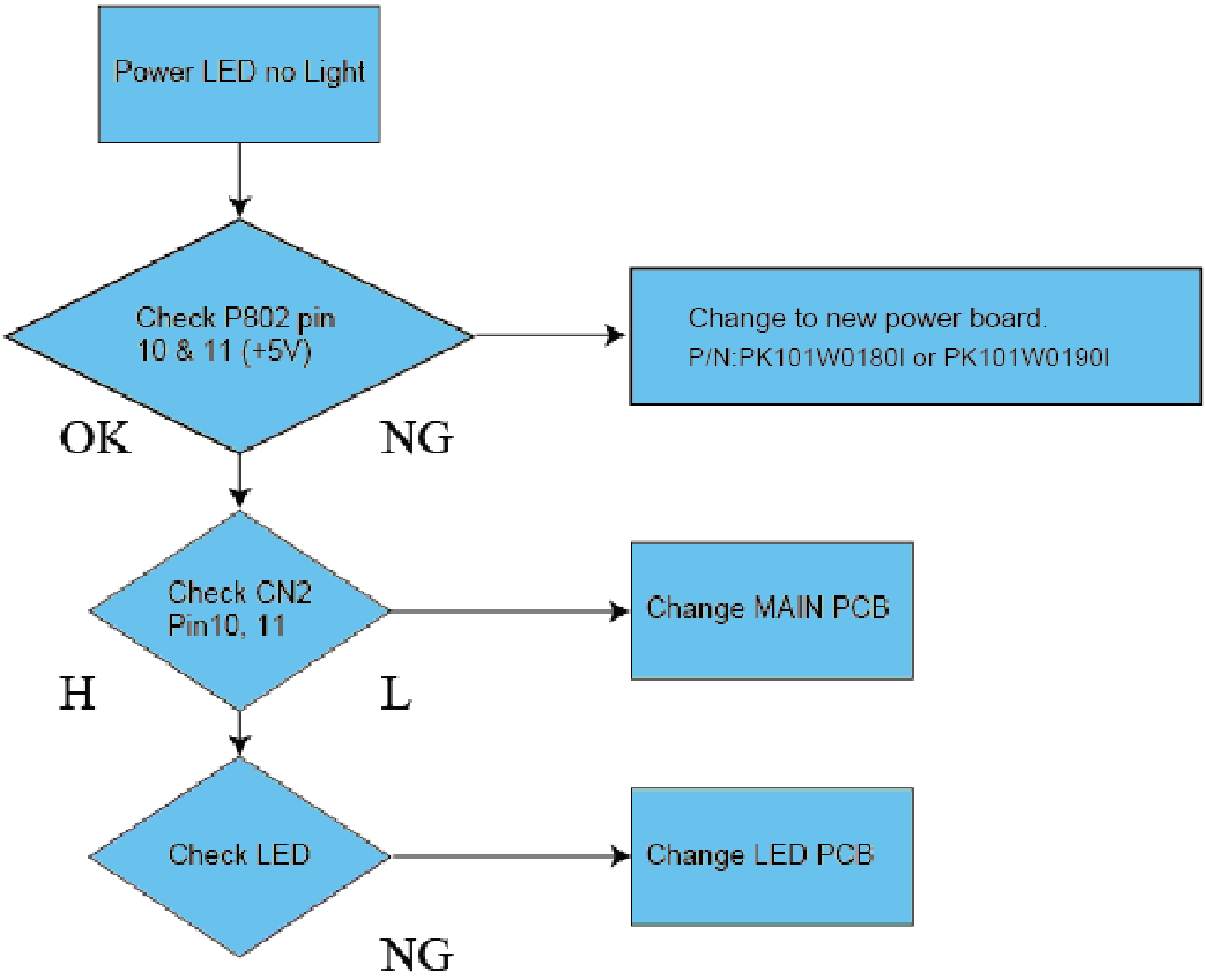
(1) Make sure you have connected LED TV to your equipment as described in the section " CONNECTING LED TV".
(2) Check cable connection. Verify that all external equipment and power cord are properly connected.
(3) Verify that all power is switched on.
(4) If LED TV still does not produce an image, re-start the external equipment.
(5) If the image still does not appear, unplug LED TV from the external equipment and check the external equipment. The problem may be with your graphics controller rather than with LED TV. (When you reconnect LED TV, remember to turn the external equipment and TV off before you power up LED TV. Power the equipment back on in order of LED TV and external equipment.)
(6) If the problem still exists, check the following chart.

Problem	Try these Solutions
NO POWER	• Plug this LED TV into the AC outlet. • Press POWER button on side control or on Remote Control to turn on LED TV. • Check POWER Indicator. If this indicator blank, this TV has getting trouble.
Remote Control does not work	• Check the batteries. • Make sure nothing is between the Remote Receiver and the Remote Control. • Make sure you are not too far from LED TV when using Remote Control. • Maximum operating range is 5m. • Is direct sunlight or strong artificial light shining on LED TV's Infrared Remote Receiver? Eliminate the light by closing curtains, pointing the light in a different direction, etc.
No image	• Check the connection between the external equipment and LED TV. • When turning LED TV on, it takes within 7 seconds (ATV mode) to display the image. • Check the system that you select is corresponding with the external equipment or the video equipment. • Make sure the temperature is not out of the Operating Temperature (0°C ~ 35°C). • Turn off power, then turn on again, re-start LED TV.
No sound	• Check Audio cable connection from Audio input source. • Adjust the Sound System. • Press VOLUME (+) button. • Press MUTE button.
There are tiny black points and/or bright point on the TV	• Dark or bright points of light (red, green, or blue) may appear on the screen. This is a characteristic of the LED panel, not a malfunction of the LED TV. • LED panel is produced with very high accuracy technology. There is 99.99% or more dot pixel, but there is also 0.01 % or less of dot pixel lack or dot pixel that is constantly lighted. This is not defect. • Regarding LED panel characteristic, it may occur picture remain (look like a mirror) when the screen is changed if it displays same screen for a long time. Changing the picture or turn-off the power supply may recover. • Stripe pattern (more, interference stripes) may show up on the screen depends on the reflected picture.
Abnormal color of image	• Adjust the value of color. • Select different color system.

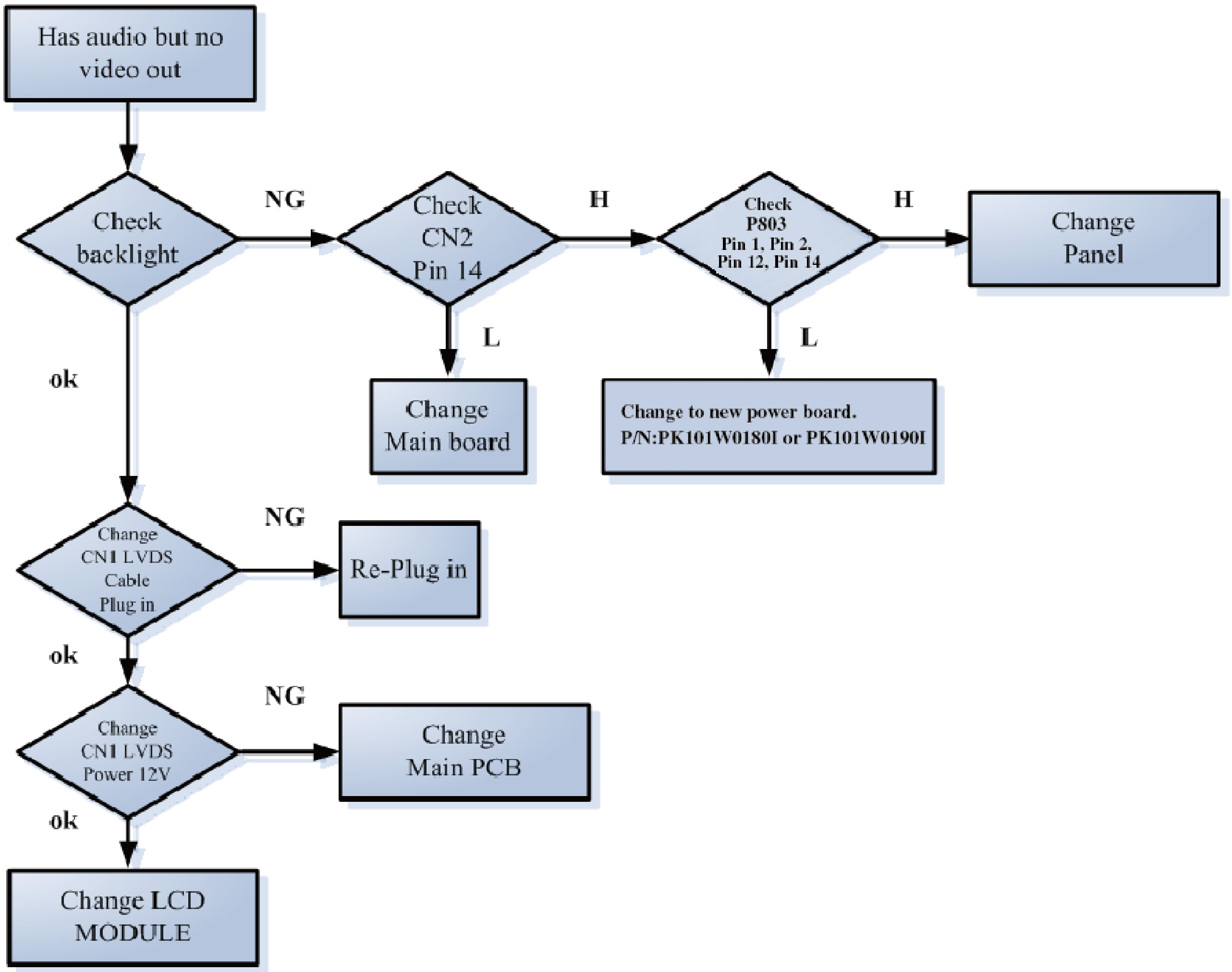
2. Troubleshooting guide

The flow chart shown below will help you to troubleshoot your Televison set with it doesn't display normally. Each procedure offers a simple way to check for system errors. Before starting, ensure that there is a signal in and that the Televison is turned on.

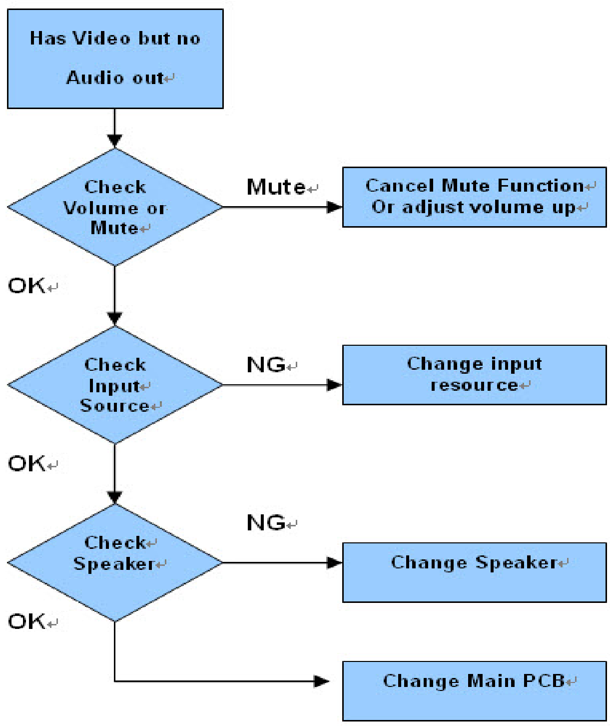
2-1 Power LED no light



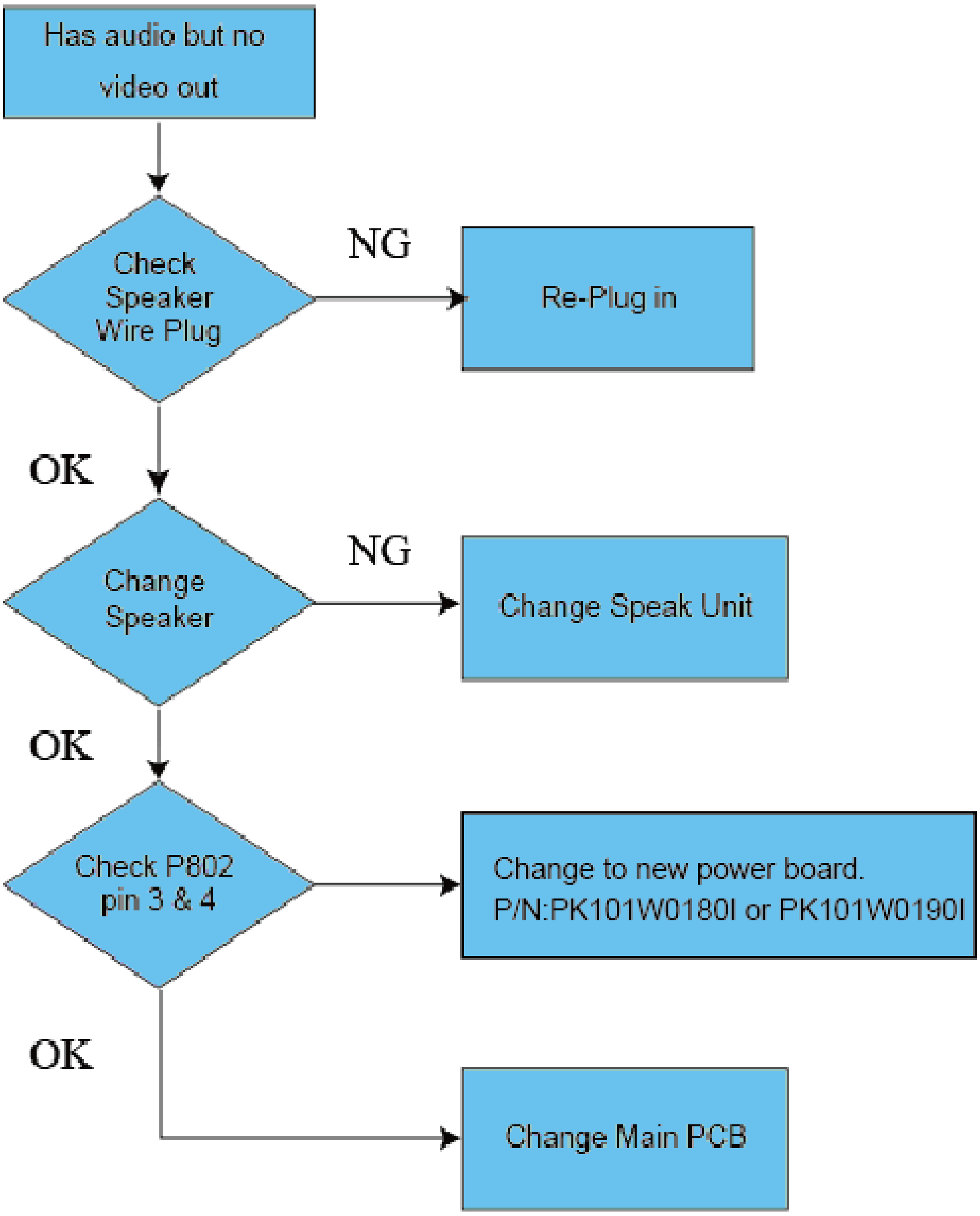
2-2 Has audio but no video out



2-3 Has video but no audio out step 1

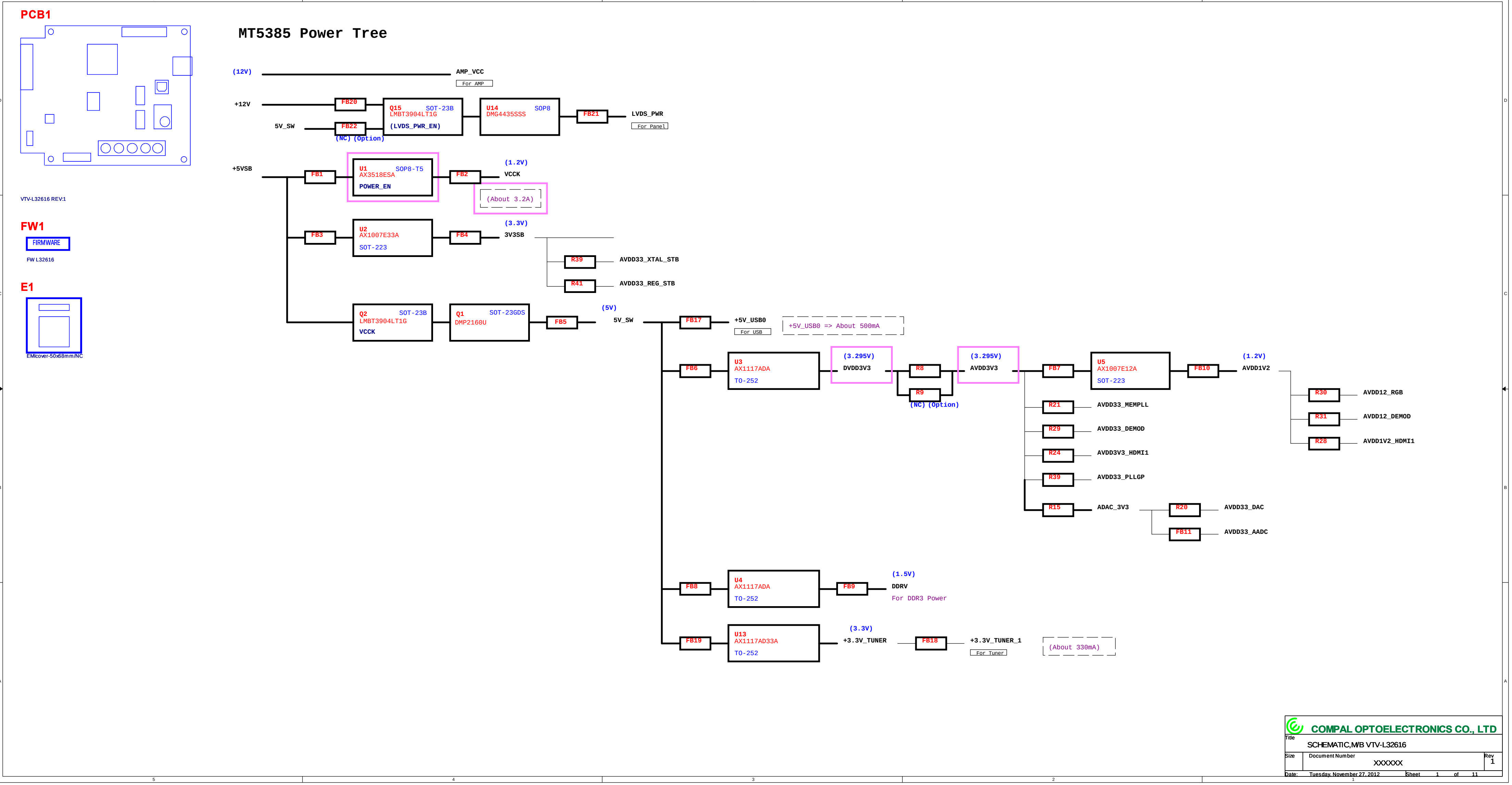


2-4 **Has video but no audio out step 2**

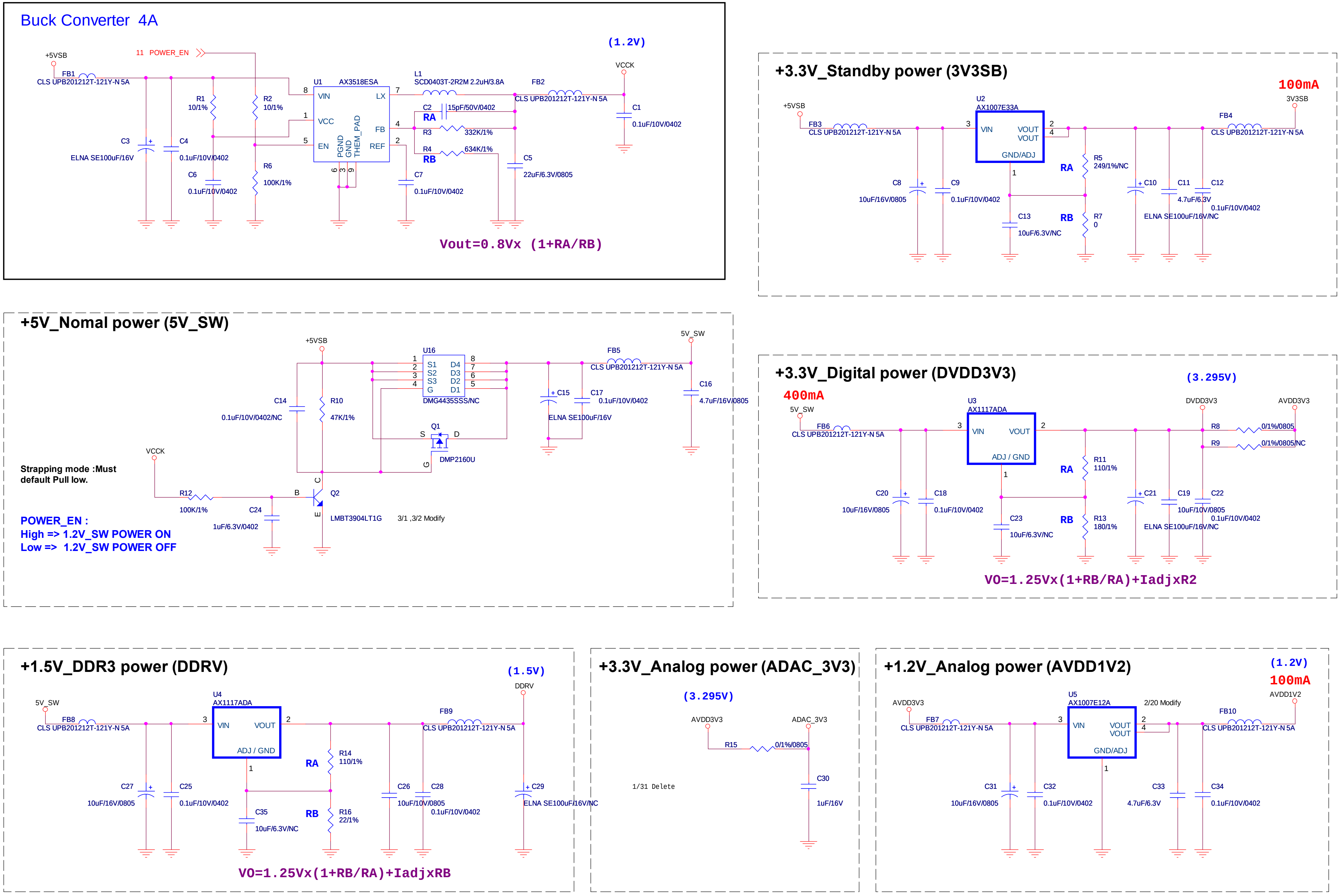


9.SCHEMATIC DIAGRAM

--ELECTRON

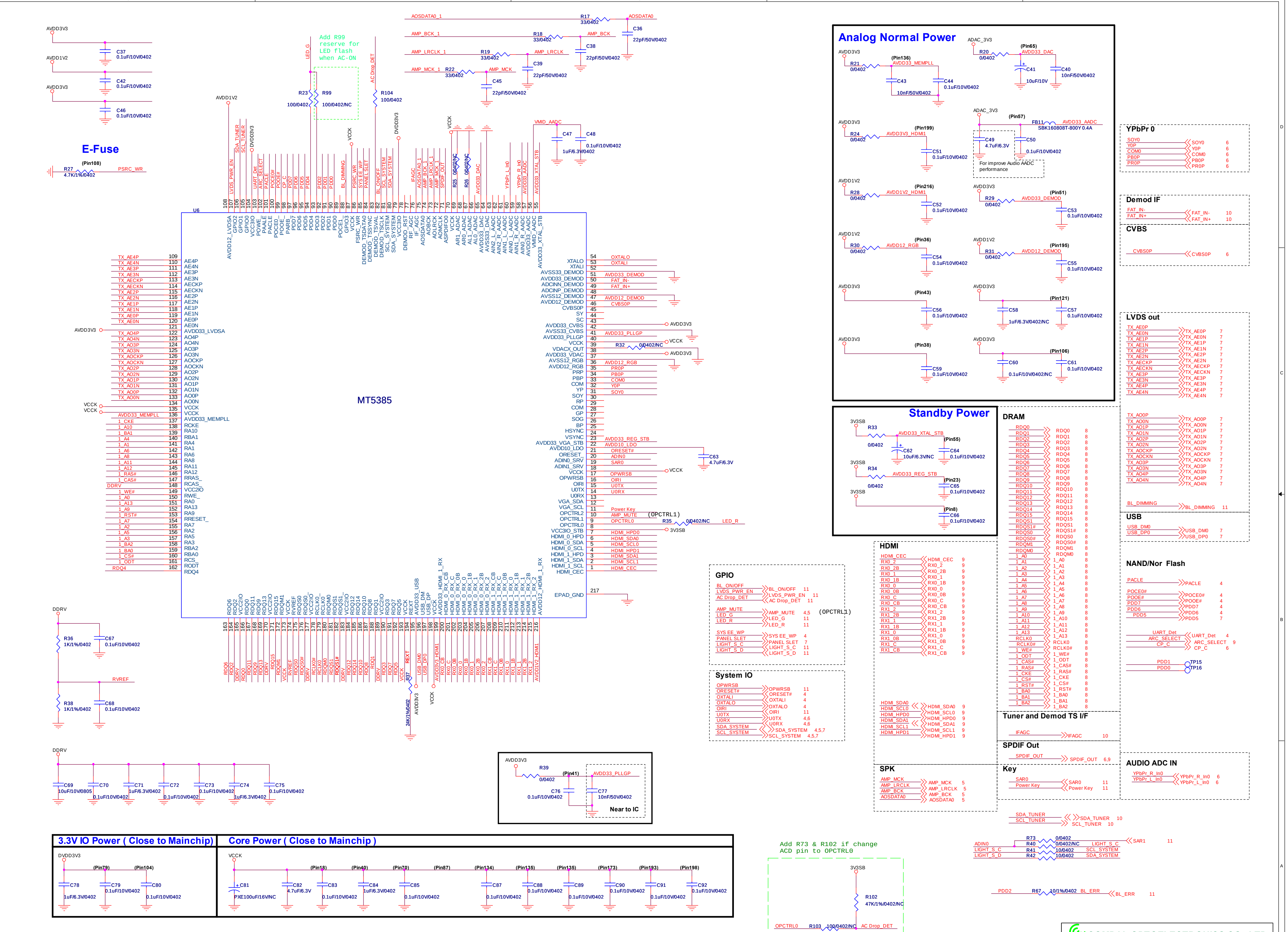


PCB1
VTV-L32616 REV:1
FW1
FIRMWARE
FW L32616
E1
EMIcover-50x68mm/NC
MT5385 Power Tree
(12V)
AMP_VCC
For AMP
+12V
FB20
Q15
SOT-23B
LMBT3904LT1G
(LVDS_PWR_EN)
U14
SOP8
DMG4435SSS
FB21
LVDS_PWR
For Panel
5V_SW
FB22
(NC) (Option)
+5VSB
FB1
U1
SOP8-T5
AX3518ESA
POWER_EN
FB2
(1.2V)
VCCK
(About 3.2A)
FB3
U2
AX1007E33A
SOT-223
FB4
(3.3V)
3V3SB
R39
AVDD33_XTAL_STB
R41
AVDD33_REG_STB
Q2
SOT-23B
LMBT3904LT1G
VCCK
Q1
SOT-23GDS
DMP2160U
FB5
(5V)
5V_SW
FB17
+5V_USB0
For USB
+5V_USB0 => About 500mA
FB6
U3
AX1117ADA
TO-252
(3.295V)
DVDD3V3
R8
R9
(NC) (Option)
(3.295V)
AVDD3V3
FB7
U5
AX1007E12A
SOT-223
FB10
(1.2V)
AVDD1V2
R30
AVDD12_RGB
R31
AVDD12_DEMOD
R28
AVDD1V2_HDMI1
R21
AVDD33_MEMPLL
R29
AVDD33_DEMOD
R24
AVDD3V3_HDMI1
R39
AVDD33_PLLGP
R15
ADAC_3V3
R20
AVDD33_DAC
FB11
AVDD33_AADC
FB8
U4
AX1117ADA
TO-252
FB9
(1.5V)
DDRV
For DDR3 Power
FB19
U13
AX1117AD33A
TO-252
(3.3V)
+3.3V_TUNER
FB18
+3.3V_TUNER_1
For Tuner
(About 330mA)
COMPAL OPTOELECTRONICS CO., LTD
Title
SCHEMATIC,M/B VTV-L32616
Size
Document Number
XXXXXX
Rev
1
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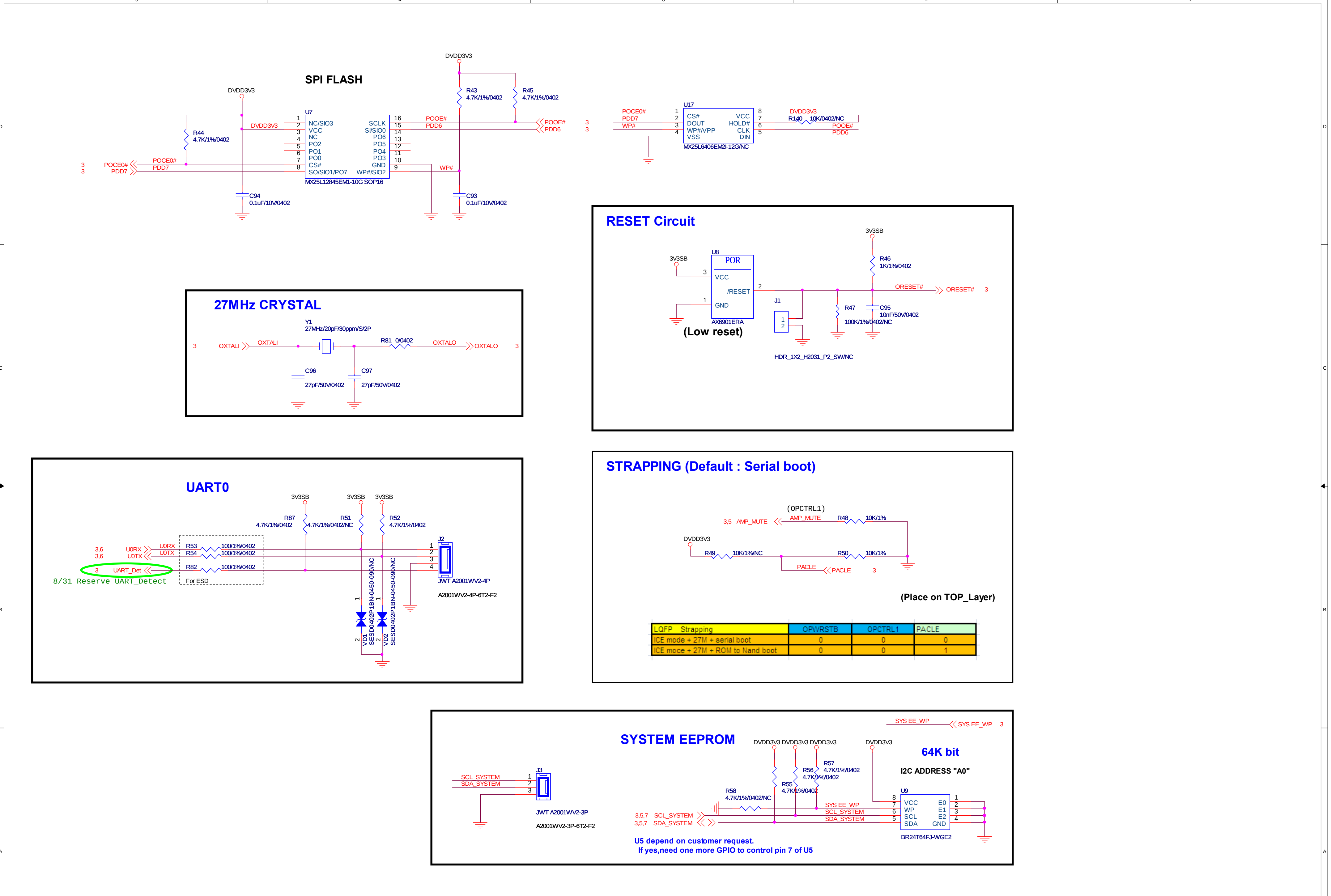
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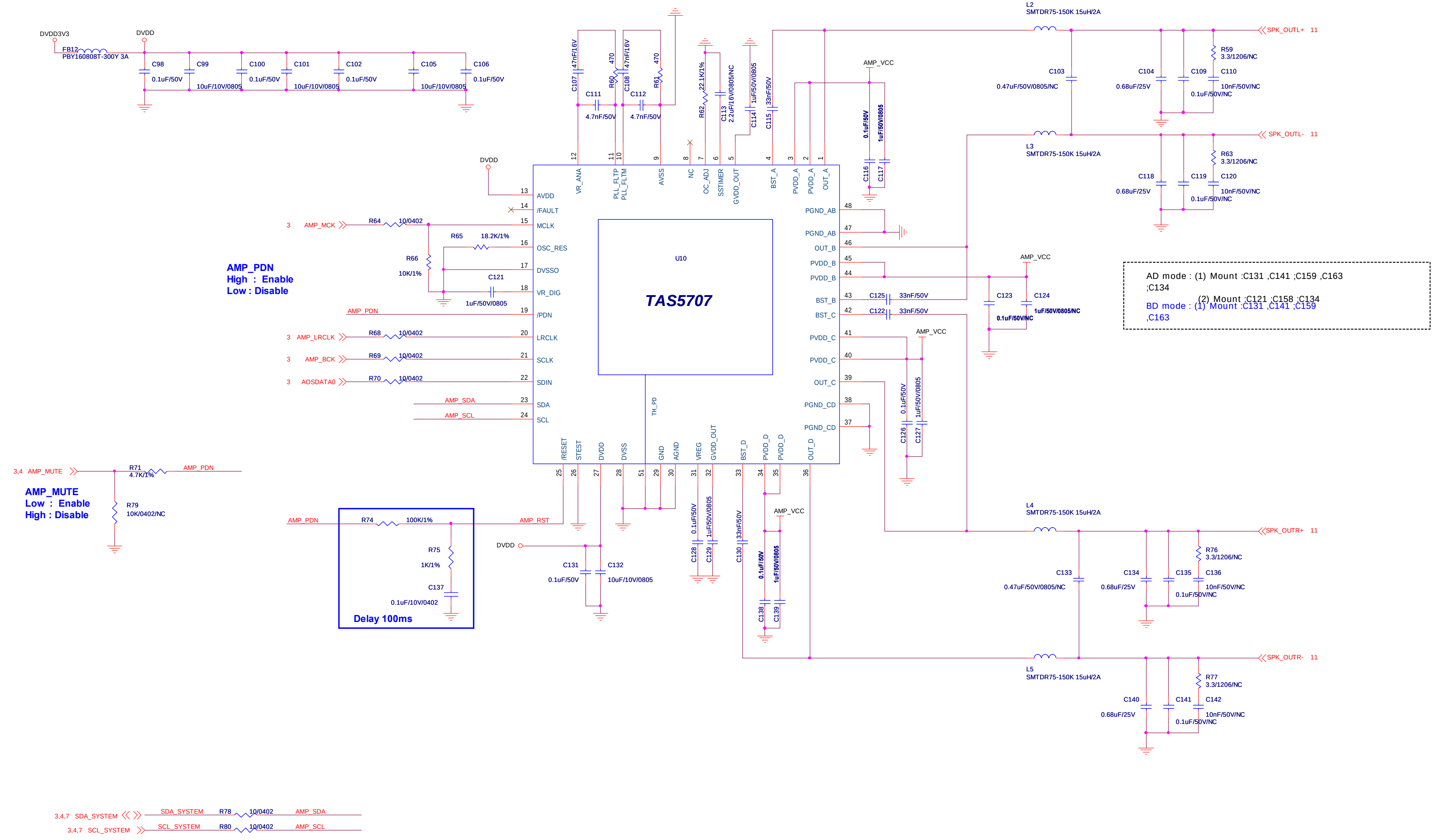
LQFP Strapping	OPWRSTB	OPCTRL1	PACLE
ICE mode + 27M + serial boot	0	0	0
ICE mode + 27M + ROM to Nand boot	0	0	1

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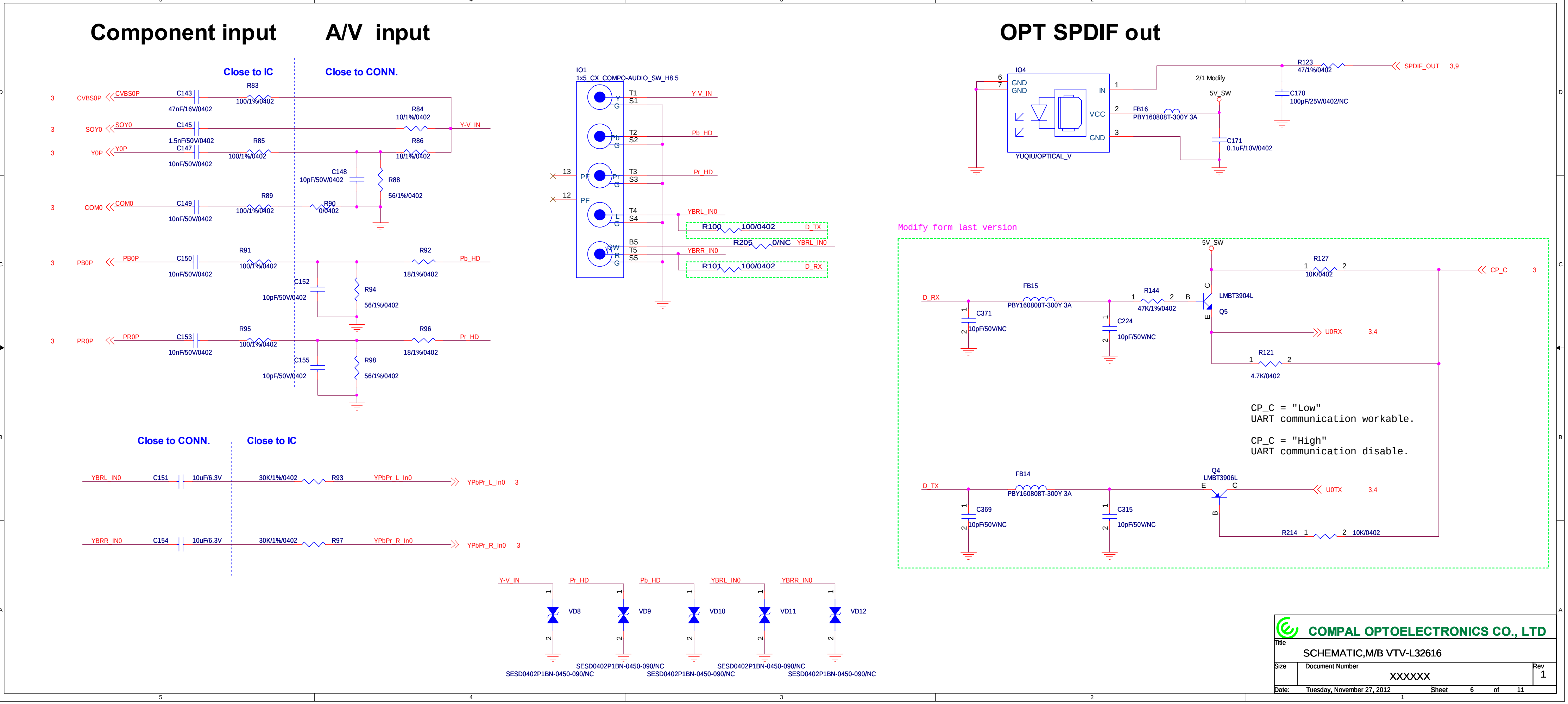
Size | Document Number: XXXXXX | Rev: 1

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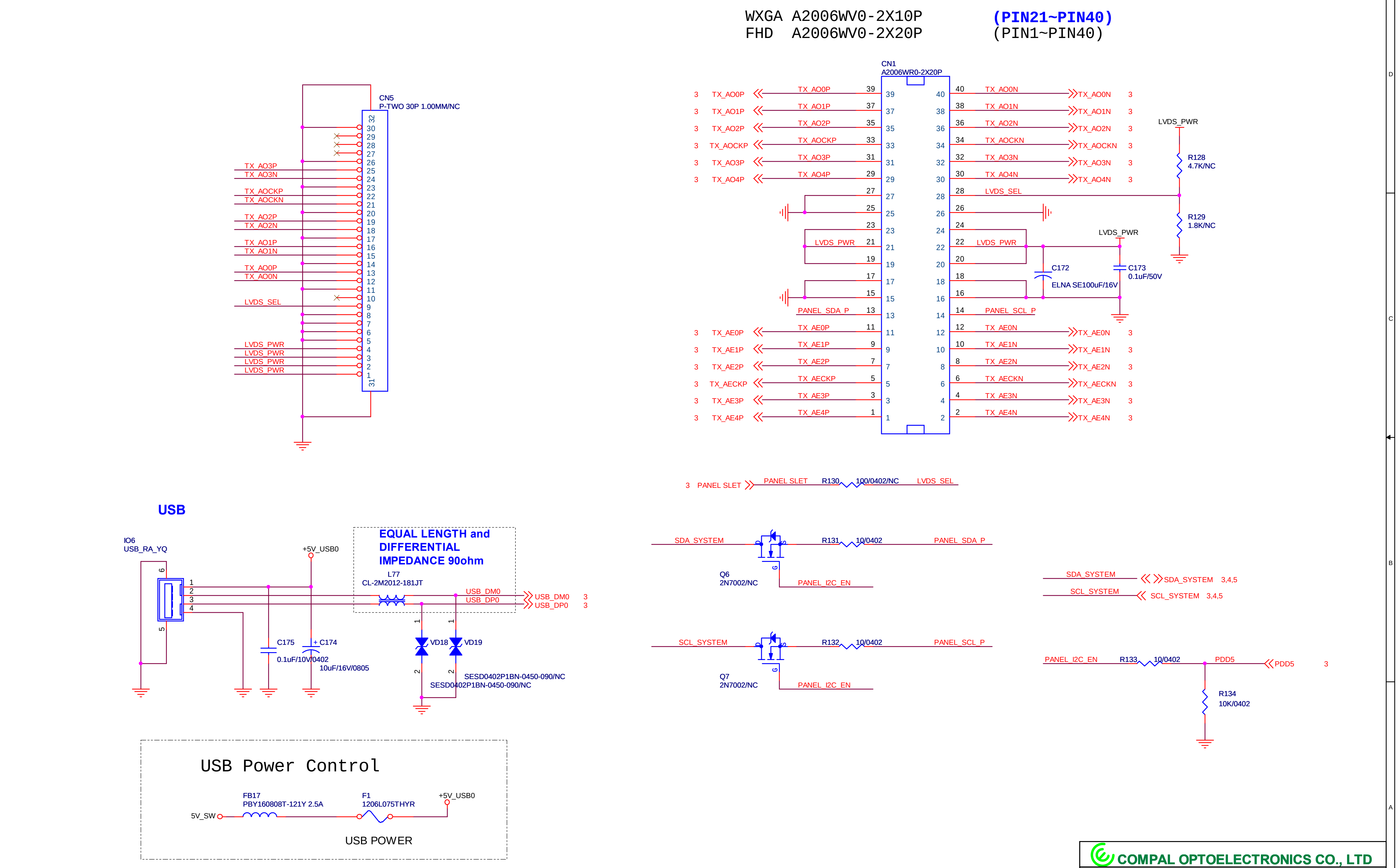


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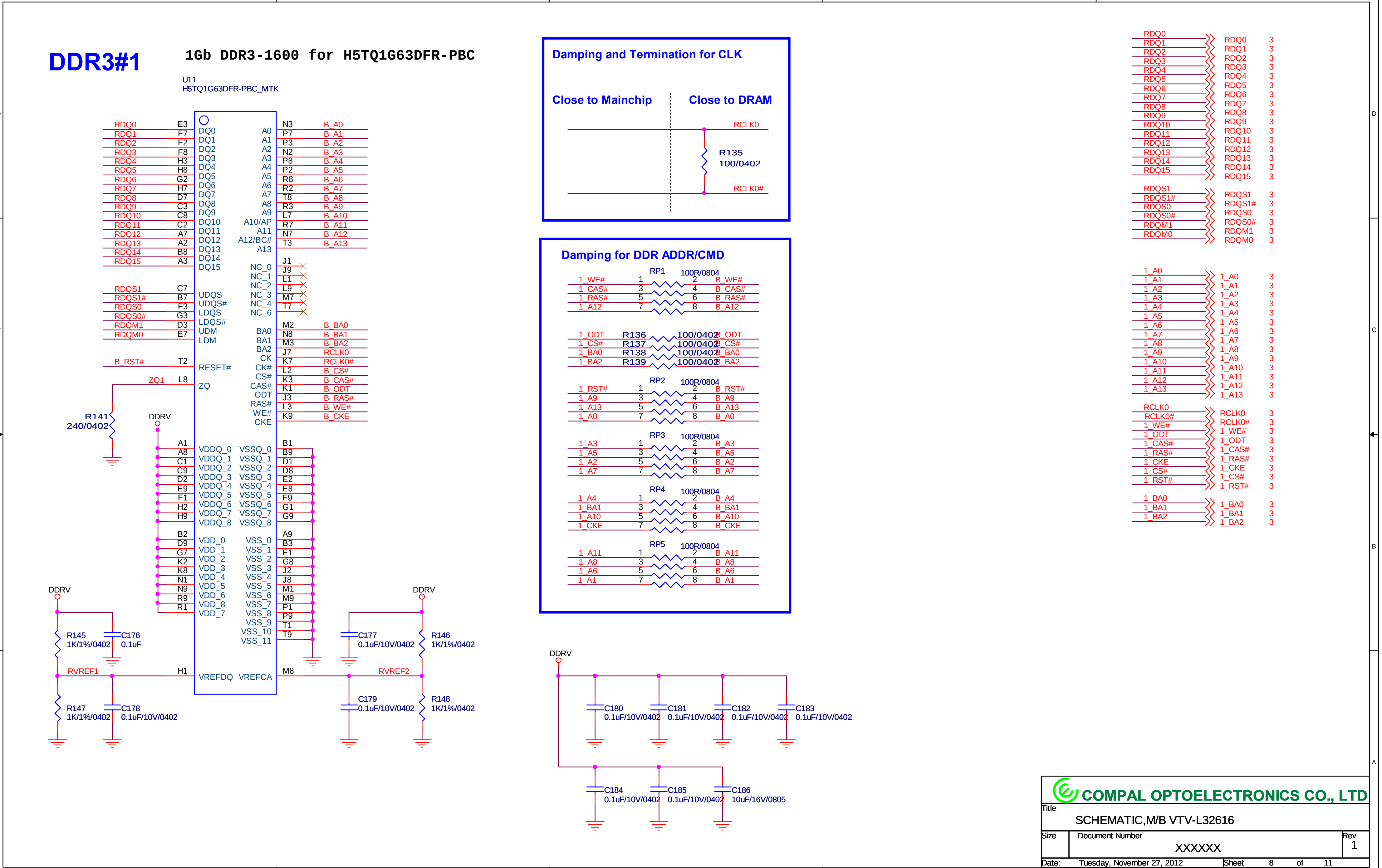


Component input
A/V input
OPT SPDIF out
Close to IC
Close to CONN.
CVBS0P
SOY0
Y0P
COM0
PB0P
PR0P
C143 47nF/16V/0402
R83 100/1%/0402
R84 10/1%/0402
Y-V_IN
C145 1.5nF/50V/0402
C147 10nF/50V/0402
R85 100/1%/0402
R86 18/1%/0402
C148 10pF/50V/0402
R88 56/1%/0402
C149 10nF/50V/0402
R89 100/1%/0402
R90 0/0402
C150 10nF/50V/0402
R91 100/1%/0402
R92 18/1%/0402
Pb_HD
C152 10pF/50V/0402
R94 56/1%/0402
C153 10nF/50V/0402
R95 100/1%/0402
R96 18/1%/0402
Pr_HD
C155 10pF/50V/0402
R98 56/1%/0402
IO1
1x5_CX_COMPO-AUDIO_SW_H8.5
YBRL_IN0
YBRR_IN0
R100 100/0402 D_TX
R205 0/NC
R101 100/0402 D_RX
Close to CONN.
Close to IC
C151 10uF/6.3V
30K/1%/0402 R93
YPbPr_L_In0
C154 10uF/6.3V
30K/1%/0402 R97
YPbPr_R_In0
VD8
VD9
VD10
VD11
VD12
SESD0402P1BN-0450-090/NC
IO4
YUQIU/OPTICAL_V
GND
IN
VCC
2/1 Modify
FB16 PBY160808T-300Y 3A
5V_SW
C171 0.1uF/10V/0402
R123 47/1%/0402
SPDIF_OUT 3,9
C170 100pF/25V/0402/NC
Modify form last version
R127 10K/0402
CP_C 3
FB15 PBY160808T-300Y 3A
R144 47K/1%/0402
LMBT3904L
Q5
C371 10pF/50V/NC
C224 10pF/50V/NC
U0RX 3,4
R121 4.7K/0402
CP_C = "Low"
UART communication workable.
CP_C = "High"
UART communication disable.
FB14 PBY160808T-300Y 3A
Q4 LMBT3906L
U0TX 3,4
C369 10pF/50V/NC
C315 10pF/50V/NC
R214 10K/0402
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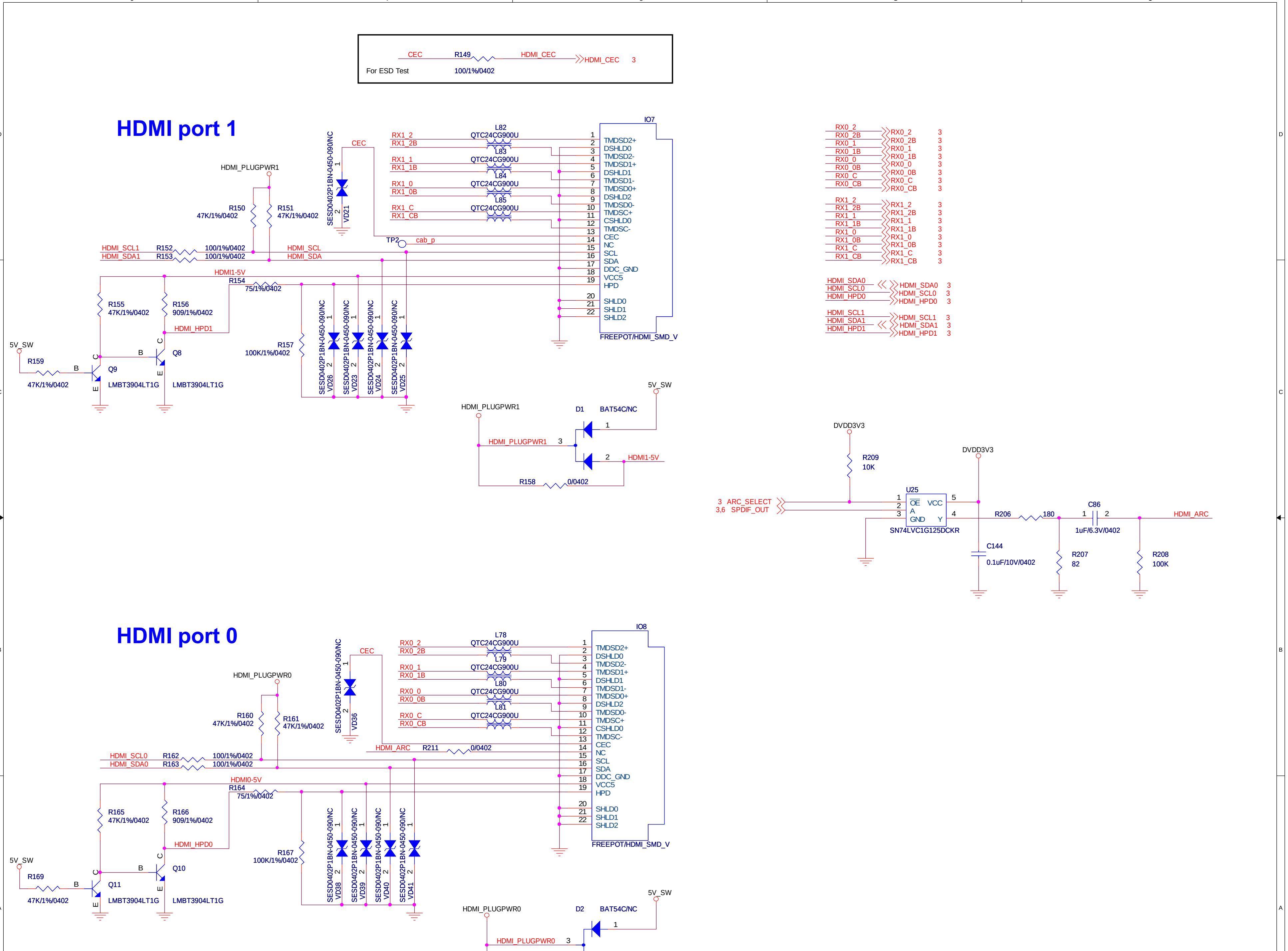


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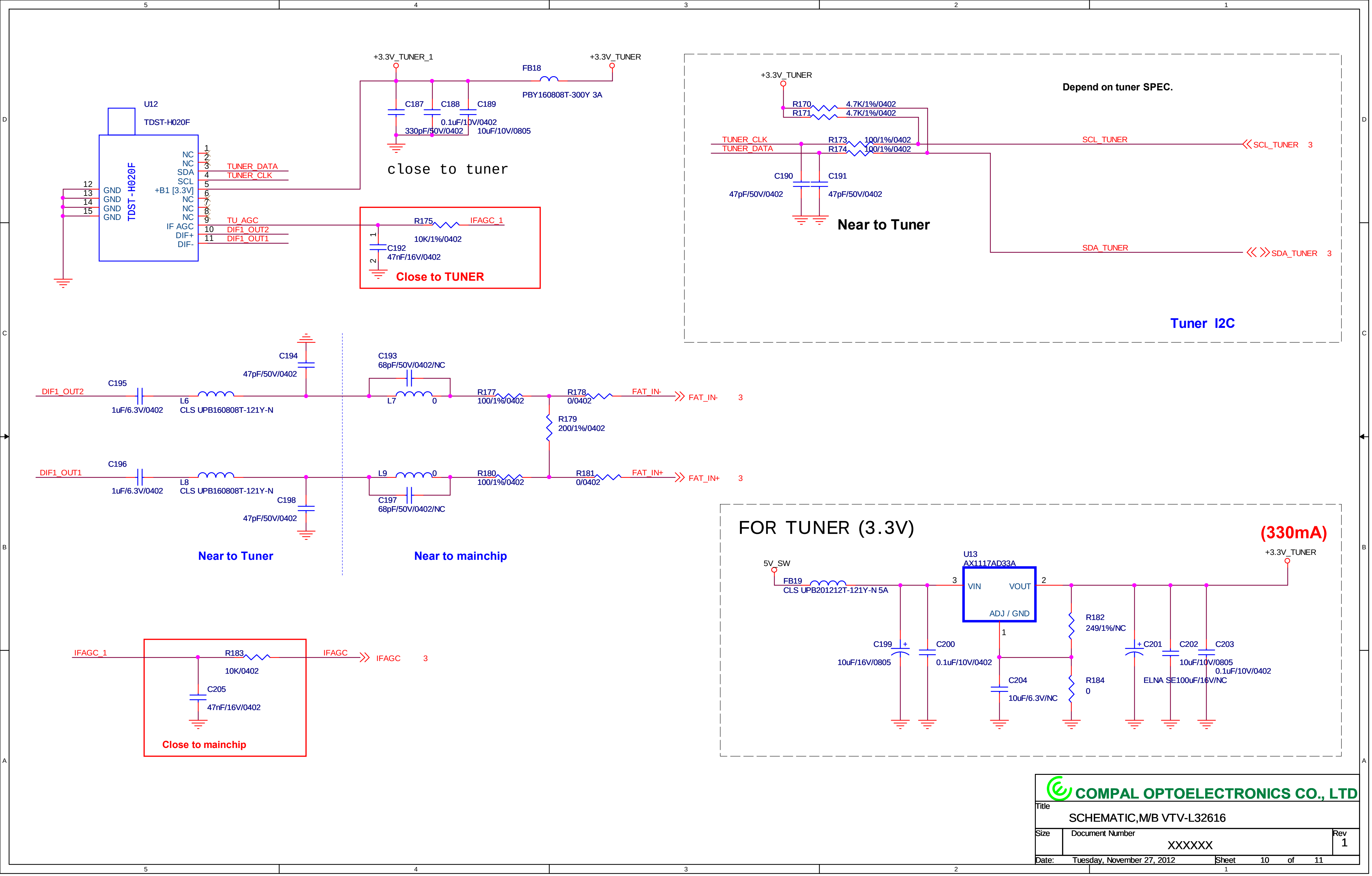


DDR3#1
1Gb DDR3-1600 for H5TQ1G63DFR-PBC
U11
H5TQ1G63DFR-PBC_MTK
Damping and Termination for CLK
Close to Mainchip
Close to DRAM
RCLK0
R135
100/0402
RCLK0#
Damping for DDR ADDR/CMD
RP1 100R/0804
RP2 100R/0804
RP3 100R/0804
RP4 100R/0804
RP5 100R/0804
R136 100/0402
R137 100/0402
R138 100/0402
R139 100/0402
R141 240/0402
DDRV
R145 1K/1%/0402
C176 0.1uF
R146 1K/1%/0402
C177 0.1uF/10V/0402
R147 1K/1%/0402
C178 0.1uF/10V/0402
R148 1K/1%/0402
C179 0.1uF/10V/0402
RVREF1
RVREF2
C180 0.1uF/10V/0402
C181 0.1uF/10V/0402
C182 0.1uF/10V/0402
C183 0.1uF/10V/0402
C184 0.1uF/10V/0402
C185 0.1uF/10V/0402
C186 10uF/16V/0805
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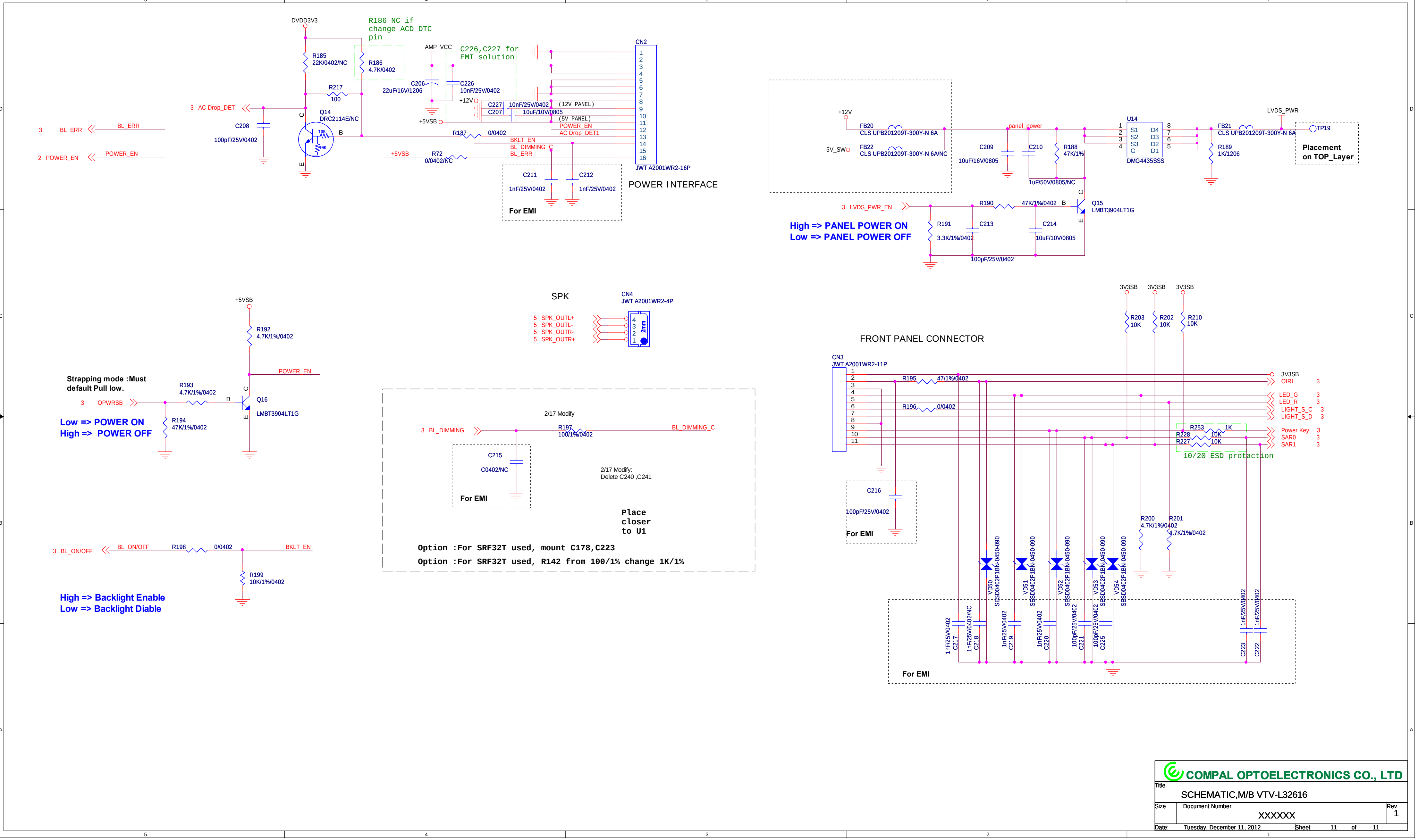


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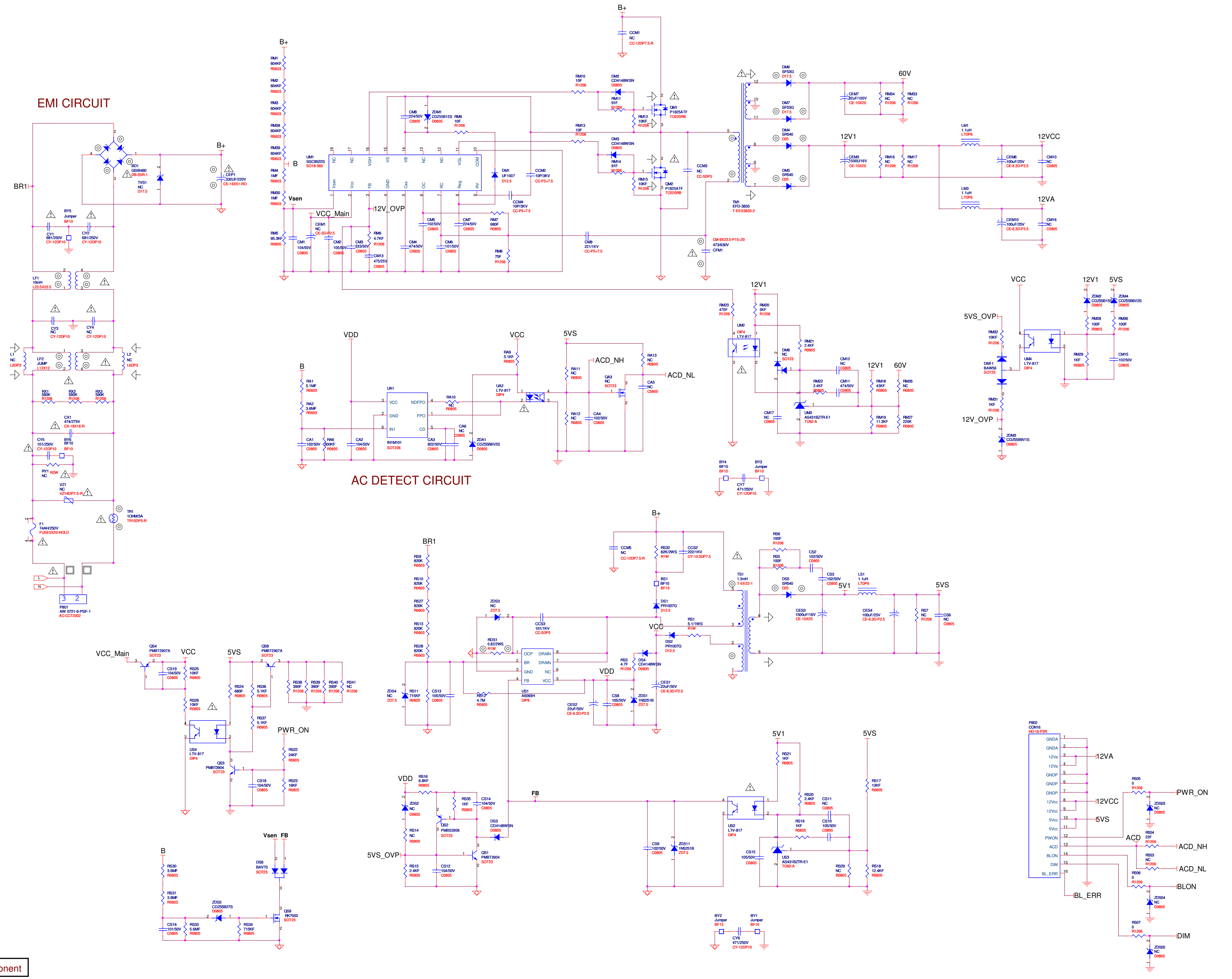


U12
TDST-H020F
NC
NC
SDA
SCL
+B1 [3.3V]
NC
NC
NC
IF AGC
DIF+
DIF-
GND
GND
GND
GND
TUNER_DATA
TUNER_CLK
TU_AGC
DIF1_OUT2
DIF1_OUT1
+3.3V_TUNER_1
+3.3V_TUNER
FB18
PBY160808T-300Y 3A
C187
C188
C189
330pF/50V/0402
0.1uF/10V/0402
10uF/10V/0805
close to tuner
R175
IFAGC_1
10K/1%/0402
C192
47nF/16V/0402
Close to TUNER
Depend on tuner SPEC.
R170
4.7K/1%/0402
R171
4.7K/1%/0402
R173
100/1%/0402
R174
100/1%/0402
SCL_TUNER
SDA_TUNER
C190
C191
47pF/50V/0402
47pF/50V/0402
Near to Tuner
Tuner I2C
C194
47pF/50V/0402
C193
68pF/50V/0402/NC
C195
1uF/6.3V/0402
L6
CLS UPB160808T-121Y-N
L7
0
R177
100/1%/0402
R178
0/0402
FAT_IN-
R179
200/1%/0402
C196
1uF/6.3V/0402
L8
CLS UPB160808T-121Y-N
C198
47pF/50V/0402
L9
0
C197
68pF/50V/0402/NC
R180
100/1%/0402
R181
0/0402
FAT_IN+
Near to Tuner
Near to mainchip
FOR TUNER (3.3V)
(330mA)
5V_SW
FB19
CLS UPB201212T-121Y-N 5A
U13
AX1117AD33A
VIN
VOUT
ADJ / GND
R182
249/1%/NC
C199
10uF/16V/0805
C200
0.1uF/10V/0402
C204
10uF/6.3V/NC
R184
0
C201
ELNA SE100uF/16V/NC
C202
10uF/10V/0805
C203
0.1uF/10V/0402
IFAGC_1
R183
10K/0402
IFAGC
C205
47nF/16V/0402
Close to mainchip
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R186 NC if change ACD DTC pin
DVDD3V3
R185 22K/0402/NC
R186 4.7K/0402
R217 100
AC Drop_DET
BL_ERR
POWER_EN
C208 100pF/25V/0402
Q14 DRC2114E/NC
AMP_VCC
C226,C227 for EMI solution
C206 22uF/16V/1206
C226 10nF/25V/0402
+12V
C227 10nF/25V/0402 (12V PANEL)
C207 10uF/10V/0805 (5V PANEL)
+5VSB
R187 0/0402
R72 0/0402/NC
BKLT_EN
BL_DIMMING_C
AC Drop_DET1
CN2
JWT A2001WR2-16P
C211 1nF/25V/0402
C212 1nF/25V/0402
For EMI
POWER INTERFACE
+12V
5V_SW
FB20 CLS UPB201209T-300Y-N 6A
FB22 CLS UPB201209T-300Y-N 6A/NC
panel_power
C209 10uF/16V/0805
C210 1uF/50V/0805/NC
R188 47K/1%
U14 DMG4435SSS
FB21 CLS UPB201209T-300Y-N 6A
LVDS_PWR
TP19
R189 1K/1206
Placement on TOP_Layer
LVDS_PWR_EN
R190 47K/1%/0402
R191 3.3K/1%/0402
C213 100pF/25V/0402
C214 10uF/10V/0805
Q15 LMBT3904LT1G
High => PANEL POWER ON
Low => PANEL POWER OFF
SPK
CN4 JWT A2001WR2-4P
SPK_OUTL+
SPK_OUTL-
SPK_OUTR-
SPK_OUTR+
2mm
+5VSB
R192 4.7K/1%/0402
POWER_EN
Strapping mode :Must default Pull low.
R193 4.7K/1%/0402
OPWRSB
R194 47K/1%/0402
Q16 LMBT3904LT1G
Low => POWER ON
High => POWER OFF
2/17 Modify
BL_DIMMING
R197 100/1%/0402
BL_DIMMING_C
C215 C0402/NC
For EMI
2/17 Modify: Delete C240 ,C241
Place closer to U1
Option :For SRF32T used, mount C178,C223
Option :For SRF32T used, R142 from 100/1% change 1K/1%
BL_ON/OFF
R198 0/0402
BKLT_EN
R199 10K/1%/0402
High => Backlight Enable
Low => Backlight Diable
FRONT PANEL CONNECTOR
CN3 JWT A2001WR2-11P
3V3SB
R203 10K
R202 10K
R210 10K
R195 47/1%/0402
R196 0/0402
OIRI
LED_G
LED_R
LIGHT_S_C
LIGHT_S_D
Power Key
SAR0
SAR1
R253 1K
R228 10K
R227 10K
10/20 ESD protaction
C216 100pF/25V/0402
For EMI
R200 4.7K/1%/0402
R201 4.7K/1%/0402
VD50 VD51 VD52 VD53 VD54 SESD0402P1BN-0450-090
C217 1nF/25V/0402
C218 1nF/25V/0402/NC
C219 1nF/25V/0402
C220 1nF/25V/0402
C221 100pF/25V/0402
C225 100pF/25V/0402
C223 1nF/25V/0402
C222 1nF/25V/0402
For EMI
COMPAL OPTOELECTRONICS CO., LTD
Title
SCHEMATIC,M/B VTV-L32616
Size
Document Number
XXXXXX
Rev
1
Date: Tuesday, December 11, 2012
Sheet 11 of 11

SCHEMATIC DIAGRAMP
POWER

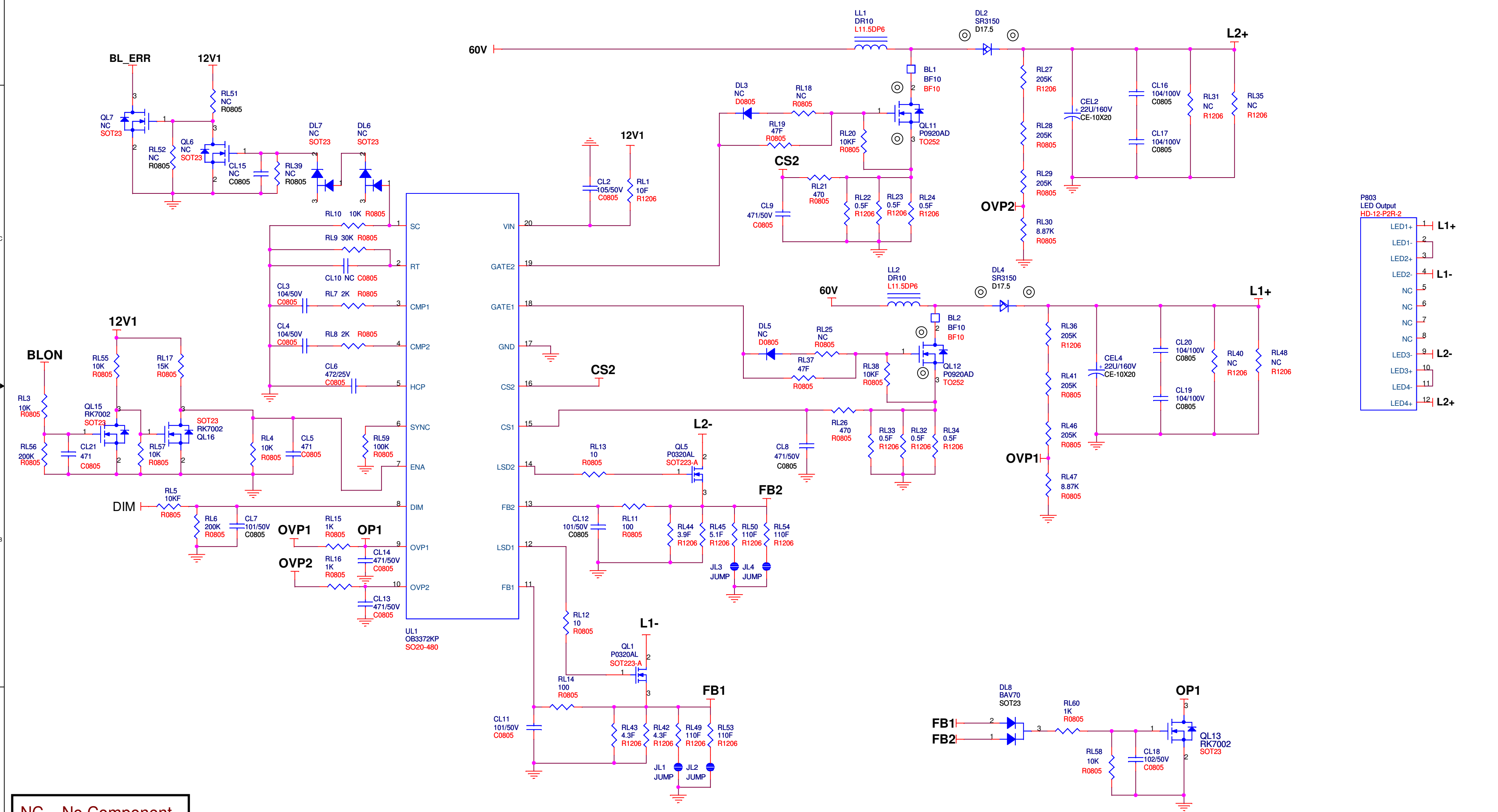


NC = No Component

2.2mm eyelet
1.6mm eyelet
補錫

PCB: FR1-CTI600
Basic: 3.5mm, Reinforced: 7.5mm

DARFON		達方電子股份有限公司	
		CUSTOMER MODEL: SPD39T CUSTOMER PART NO: PK DARFON Model Name: B178-C01 for PP	
2012/12/05	REV. D	Reviewed by	Tony Ku
Prepared by	Hughes Lai	Approved by	Peter Wang

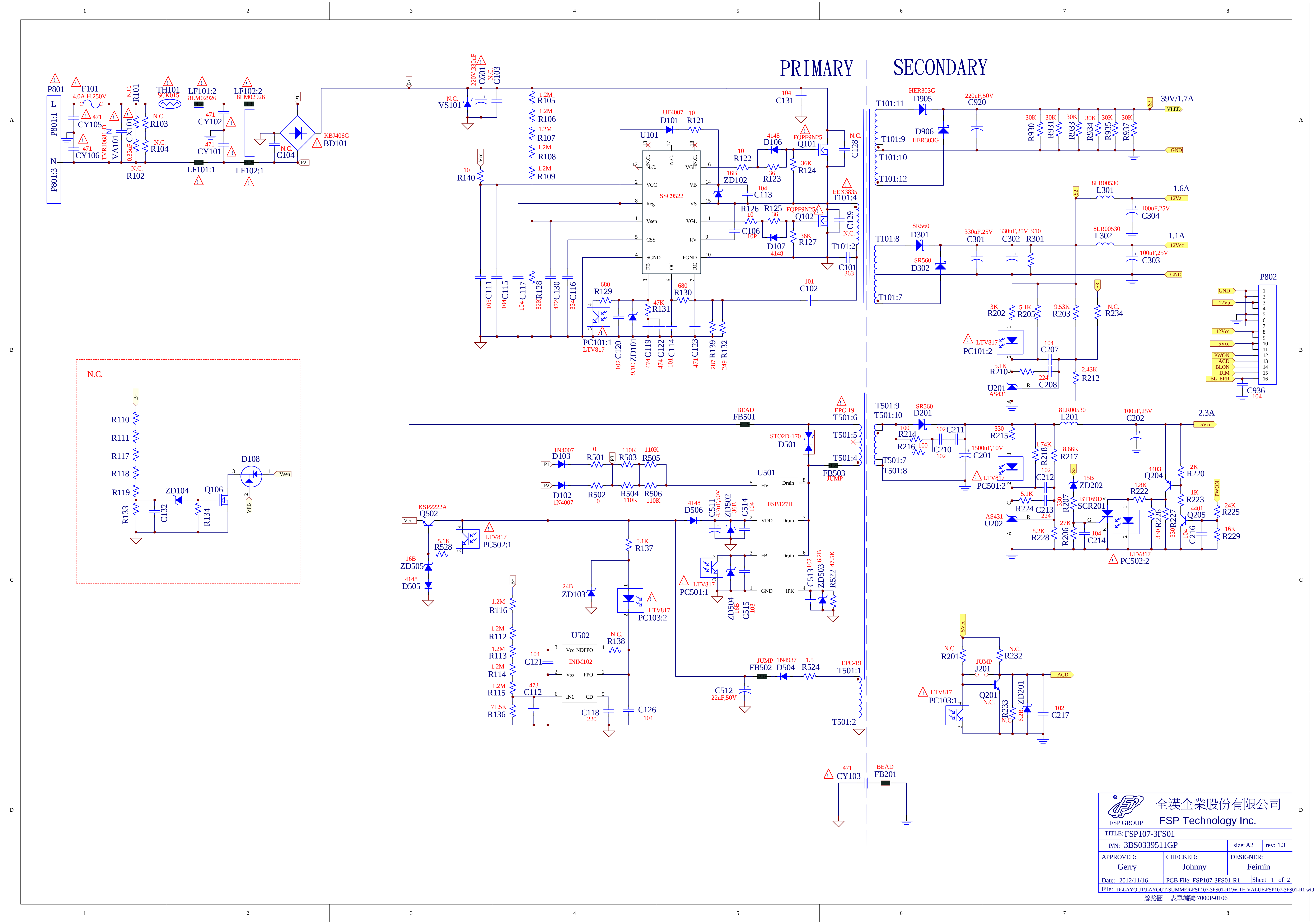


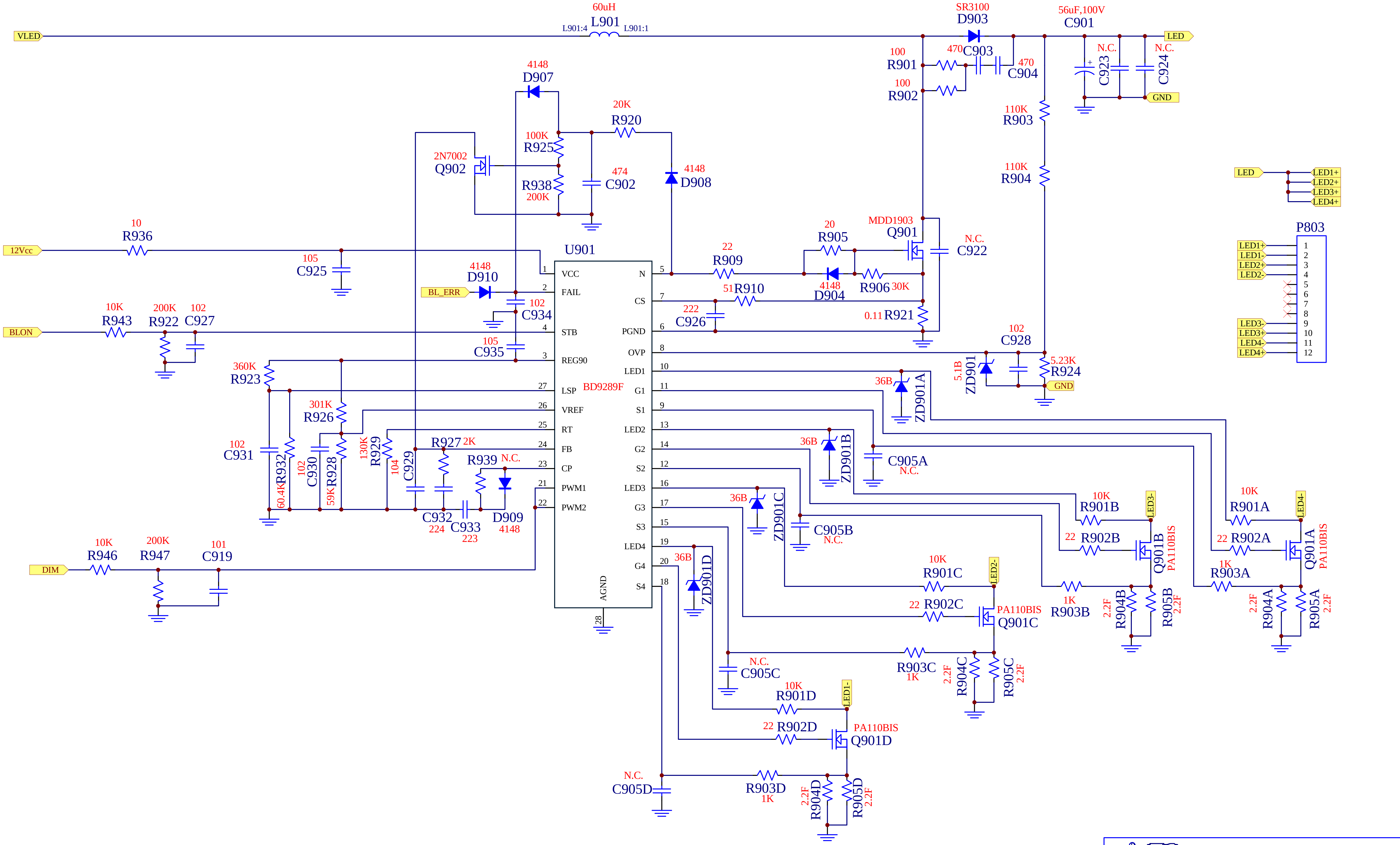
NC = No Component

□ 2.2mm eyelet
◎ 1.6mm eyelet
補錫

PCB: FR1-CTI600
Basic: 3.5mm, Reinforced: 7.5mm

DARFON	達方電子股份有限公司		
	CUSTOMER MODEL: SPD39T CUSTOMER PART NO: PK DARFON Model Name: B178-C01 for PP		
2012/12/05	REV. D	Reviewed by	Tony Ku
Prepared by	Hughes Lai	Approved by	Peter Wang


PRIMARY
SECONDARY
P801
F101
4.0A H,250V
TH101
SCK015
LF101:2
LF102:2
8LM02926
KBJ406G
BD101
CY105
CY106
CY101
CY102
VA101
CX101
R101
R102
R103
R104
LF101:1
LF102:1
C104
VS101
C601
C103
220V,330uF
R105
R106
R107
R108
R109
R140
U101
SSC9522
D101
UF4007
R121
D106
R122
R123
R124
Q101
FQPF9N25
C128
ZD102
C113
R126
R125
Q102
C129
R127
C106
D107
T101:4
EEX3835
T101:2
C101
C102
R129
R130
R131
PC101:1
LTV817
C111
C115
C117
R128
C130
C116
C120
ZD101
C119
C122
C114
C123
R139
R132
T101:11
T101:9
T101:10
T101:12
D905
HER303G
D906
C920
220uF,50V
R930
R931
R933
R934
R935
R937
39V/1.7A
VLED
GND
T101:8
T101:7
D301
SR560
D302
C301
C302
330uF,25V
R301
L301
L302
8LR00530
C304
C303
100uF,25V
1.6A
1.1A
12Va
12Vcc
P802
5Vcc
PWON
ACD
BLON
DIM
BL_ERR
C936
R202
R205
R203
R234
PC101:2
C207
R210
C208
U201
AS431
R212
N.C.
R110
R111
R117
R118
R119
R133
C132
R134
ZD104
Q106
D108
Vsen
VFB
BEAD
FB501
EPC-19
T501:6
T501:5
T501:4
STO2D-170
D501
FB503
JUMP
D103
D102
1N4007
R501
R502
R503
R504
R505
R506
U501
FSB127H
HV
VDD
FB
GND
Drain
IPK
D506
C511
ZD502
C514
PC501:1
ZD504
C515
C513
ZD503
R522
Q502
KSP2222A
R528
PC502:1
ZD505
D505
R137
ZD103
PC103:2
R116
R112
R113
R114
R115
R136
U502
INIM102
C121
C112
R138
C118
C126
FB502
D504
1N4937
R524
T501:1
C512
22uF,50V
T501:2
T501:9
T501:10
T501:7
T501:8
D201
R214
R216
C211
C210
C201
1500uF,10V
R215
L201
C202
2.3A
R218
R217
PC501:2
C212
C213
R224
U202
R228
R206
R207
ZD202
SCR201
BT169D
C214
R222
Q204
R220
R223
Q205
R226
R227
C216
R225
R229
PC502:2
R201
J201
R232
Q201
PC103:1
R233
ZD201
C217
CY103
FB201
全漢企業股份有限公司
FSP GROUP
FSP Technology Inc.
TITLE: FSP107-3FS01
P/N: 3BS0339511GP
size: A2
rev: 1.3
APPROVED: Gerry
CHECKED: Johnny
DESIGNER: Feimin
Date: 2012/11/16
PCB File: FSP107-3FS01-R1
Sheet 1 of 2
File: D:\LAYOUT\LAYOUT-SUMMER\FSP107-3FS01-R1\WITH VALUE\FSP107-3FS01-R1 with v
線路圖 表單編號:7000P-0106



FSP GROUP

全漢企業股份有限公司

FSP Technology Inc.

TITLE: FSP107-3FS01			
P/N: 3BS0339511GP		size: A3	rev: 1.3
APPROVED: Gerry	CHECKED: Johnny	DESIGNER: Feimin	
Date: 2012/11/16	PCB File: FSP107-3FS01-R1	Sheet 2 of 2	
File: D:\LAYOUT\LAYOUT-SUMMER\FSP107-3FS01-R1\WITH VALUE\FSP107-3FS01-R1-1 wi			

線路圖 表單編號:7000P-0106

APPENDIX-A: Main assembly

SPD39T (TC-L39B6)

Version: 01

REF. NO	Description	Part Number		Qty.	Remarks
		Chassis no: SPD39T			
		Product no: SPD39TTA010	Product no: SPD39TTA101 SKD		
1	PCBA IR/B	454C4070L01	454C4070L01	1	
2	PCBA KEY/B	454C4770L01	454C4770L01	1	
3	FIRMWARE M/B	461C6270L11	461C6270L11	1	
4	LCD MODU	AC6VT3900R1	NA	1	
5	SPK SET	CG101023P0I	CG101023P0I	2	
6	H-CON SET	DC02A00300I	DC02A00300I	1	
7	H-CON SET	DC02L01170I	DC02L01170I	1	
8	H-CON SET	DC02P02360I	DC02P02360I	1	
9	H-CON SET	DC02V05020I	DC02V05020I	1	
10	MYLAR AL TAPE	LCTC324010I	LCTC324010I	5	
11	PWR MODU(SPD39T)	PK101W0180I or PK101W0190I	PK101W0180I or PK101W0190I	1	
12	CABINET ASSY	APPD39T010I	APPD39T010I	1	
13	BACK COVER ASSY	APPD39T020I	APPD39T020I	1	
14	BOTTOM_COVER ASSY	APPD39T030I	APPD39T030I	1	
15	KEY BUTTON BRACKET A	APPD50T060I	APPD50T060I	1	
16	METAL BRACKET BOTTOM	ECPD39T020I	ECPD39T020I	1	
17	LCD MTG SIDE (50B6)	ECPD50T070I	ECPD50T070I	2	
18	GROUND_SPRING (32XM6	EEPE32T010I	EEPE32T010I	2	
19	SIDE AV BRACKET(32B6	FAPD32T050I	FAPD32T050I	1	
20	SPEAKER BRACKET(32B6	FAPD32T070I	FAPD32T070I	4	
21	CH MOUNT BOSS(32XM6)	FAPE32T060I	FAPD32T060I	2	
22	SPONGE CR4305	FHRE40T085I	FHRE40T085I	1	

23	ACETIC ACID TYPE	LCSE55T020I	LCSE55T020I	6	
24	SCREW+LOCK WASHER(8)	MAA8002040I	MAA8002040I	6	
25	SCREW	MAAT40001ZI	MAAT40001ZI	4	
26	TAPPING SCREW	MAB300001ZI	MAB300001ZI	12	
27	TAPPING SCREW	MABA000120I	MABA000120I	14	
28	RATING NP-TC-L39B6	EJ4PD39000I	EJ4PD39000I	1	
29	CARTON-TC-L39B6	HB4PD39011I	NA	1	
30	ENERGY GUIDE	HGPD390000I	HGPD390000I	1	
31	ZIPPERED BAG	HK3OL77801I	HK3OL77801I	1	
32	PE BAG FOR TV	HK3PE39001I	HK3PE39001I	1	
33	SCRW-SEMS-W	MAA7000130I	MAA7000130I	4	Type B screw
34	SCREW	MAAF50001ZI	MAAF50001ZI	4	Type A screw
35	MANUAL KITS-39_50B6	PK28PD3901I	PK28PD3901I	1	
36	PWR CORD(S)	GA05009160I	GA05009160I	1	Change from GA05009080I to GA05009160I
37	REMO CTRL AA	PK11V01870I	PK11V01870I	1	
38	PEDESTAL ASY (39EM6)	APPE39T040I	APPE39T040I	1	
39	STAND METAL	ECPD39T010I	ECPD39T010I	1	
40	EPS FOAM (T-L)	FJPD39T010I	NA	1	
41	EPS FOAM (T-R)	FJPD39T020I	NA	1	
42	EPS FOAM (B-L)	FJPD39T030I	NA	1	
43	EPS FOAM (B-R)	FJPD39T040I	NA	1	
44	EPS FOAM (T-M)	FJPD39T050I	NA	1	
45	EPS FOAM (B-M)	FJPD39T060I	NA	1	

SPD39T (TC-L39B6X)

Version: 01

REF. NO	Description	Part Number		Qty.	Remarks
		Chassis no: SPD39T			
		Product no: SPD39TTX010	Product no: SPD39TTX101 SKD		
1	PCBA IR/B	454C4070L01	454C4070L01	1	
2	PCBA KEY/B	454C4770L01	454C4770L01	1	
3	FIRMWARE M/B	461C6270L12	461C6270L12	1	
4	LCD MODU	AC6VT3900R1	NA	1	
5	SPK SET	CG101023P0I	CG101023P0I	2	
6	H-CON SET	DC02A00300I	DC02A00300I	1	
7	H-CON SET	DC02L01170I	DC02L01170I	1	
8	H-CON SET	DC02P02360I	DC02P02360I	1	
9	H-CON SET	DC02V05020I	DC02V05020I	1	
10	MYLAR AL TAPE	LCTC324010I	LCTC324010I	5	
11	PWR MODU(SPD39T)	PK101W0180I or PK101W0190I	PK101W0180I or PK101W0190I	1	
12	CABINET ASSY	APPD39T010I	APPD39T011I	1	
13	BACK COVER ASSY	APPD39T020I	APPD39T021I	1	
14	BOTTOM_COVER ASSY	APPD39T030I	APPD39T030I	1	
15	KEY BUTTON BRACKET A	APPD50T060I	APPD50T060I	1	
16	METAL BRACKET BOTTOM	ECPD39T020I	ECPD39T020I	1	
17	LCD MTG SIDE (50B6)	ECPD50T070I	ECPD50T070I	2	
18	GROUND_SPRING (32XM6	EEPE32T010I	EEPE32T010I	2	
19	SIDE AV BRACKET(32B6	FAPD32T050I	FAPD32T050I	1	
20	SPEAKER BRACKET(32B6	FAPD32T070I	FAPD32T070I	4	
21	CH MOUNT BOSS(32XM6)	FAPE32T060I	FAPD32T060I	2	
22	SPONGE CR4305	FHRE40T085I	FHRE40T085I	1	
23	ACETIC ACID TYPE	LCSE55T020I	LCSE55T020I	6	

24	SCREW+LOCK WASHER(8)	MAA8002040I	MAA8002040I	6	
25	SCREW	MAAT40001ZI	MAAT40001ZI	4	
26	TAPPING SCREW	MAB300001ZI	MAB300001ZI	12	
27	TAPPING SCREW	MABA000120I	MABA000120I	14	
28	RATING NP-TC-L32B6X	EJ4PD32050I	EJ4PD32050I	1	
29	CARTON-TC-L39B6X	HB4PD39021I	NA	1	
30	NA	NA	NA	NA	
31	ZIPPERED BAG	HK3OL77801I	HK3OL77801I	1	
32	PE BAG FOR TV	HK3PE39001I	HK3PE39001I	1	
33	SCRW-SEMS-W	MAA7000130I	MAA7000130I	4	Type B screw
34	SCREW	MAAF50001ZI	MAAF50001ZI	4	Type A screw
35	MANUAL KITS-39_50B6X	PK28PD3911I	PK28PD3911I	1	
36	PWR CORD(S)	GA18000030I	GA18000030I	1	Change from GA18000020I to GA18000030I
37	REMO CTRL AA	PK11V01870I	PK11V01870I	1	
38	PEDESTAL ASY (39EM6)	APPE39T040I	APPE39T040I	1	
39	STAND METAL	ECPD39T010I	ECPD39T010I	1	
40	EPS FOAM (T-L)	FJPD39T010I	NA	1	
41	EPS FOAM (T-R)	FJPD39T020I	NA	1	
42	EPS FOAM (B-L)	FJPD39T030I	NA	1	
43	EPS FOAM (B-R)	FJPD39T040I	NA	1	
44	EPS FOAM (T-M)	FJPD39T050I	NA	1	
45	EPS FOAM (B-M)	FJPD39T060I	NA	1	

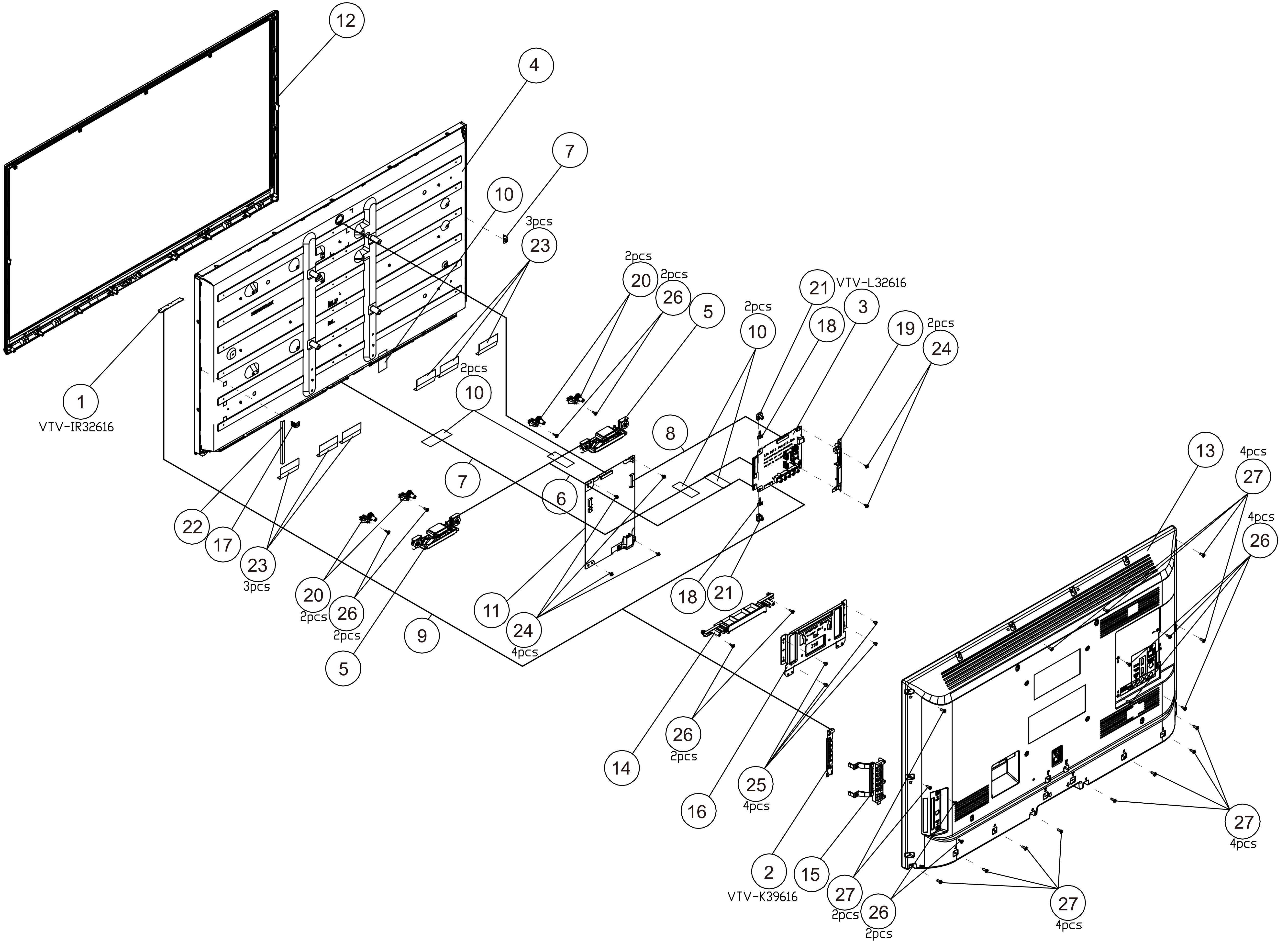
SPD39T (TC-L39B6P)

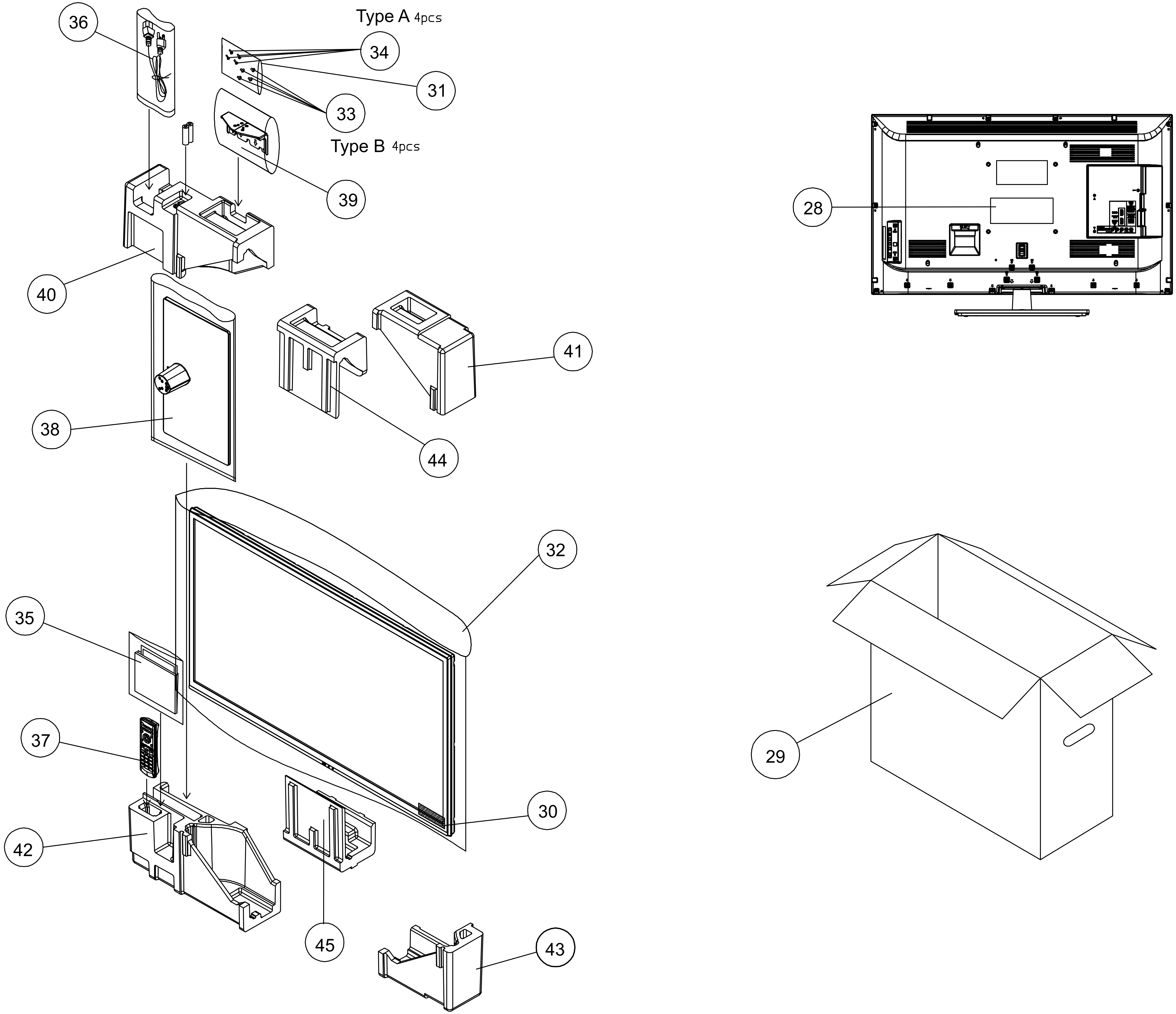
Version: 01

REF. NO	Description	Part Number		Qty.	Remarks
		Chassis no: SPD39T			
		Product no: SPD39TTP010	Product no: SPD39TTP101 SKD		
1	PCBA IR/B	454C4070L01	454C4070L01	1	
2	PCBA KEY/B	454C4770L01	454C4770L01	1	
3	FIRMWARE M/B	461C6270L12	461C6270L12	1	
4	LCD MODU	AC6VT3900R1	NA	1	
5	SPK SET	CG101023P0I	CG101023P0I	2	
6	H-CON SET	DC02A00300I	DC02A00300I	1	
7	H-CON SET	DC02L01170I	DC02L01170I	1	
8	H-CON SET	DC02P02360I	DC02P02360I	1	
9	H-CON SET	DC02V05020I	DC02V05020I	1	
10	MYLAR AL TAPE	LCTC324010I	LCTC324010I	5	Update from 1 to 5
11	PWR MODU(SPD39T)	PK101W0180I or PK101W0190I	PK101W0180I or PK101W0190I	1	Change from 2 to 1
12	CABINET ASSY	APPD39T010I	APPD39T010I	1	
13	BACK COVER ASSY	APPD39T020I	APPD39T020I	1	
14	BOTTOM_COVER ASSY	APPD39T030I	APPD39T030I	1	
15	KEY BUTTON BRACKET A	APPD50T060I	APPD50T060I	1	
16	METAL BRACKET BOTTOM	ECPD39T020I	ECPD39T020I	1	Change from 4 to 1
17	LCD MTG SIDE (50B6)	ECPD50T070I	ECPD50T070I	2	Change from 1 to 2
18	GROUND_SPRING (32XM6	EEPE32T010I	EEPE32T010I	2	
19	SIDE AV BRACKET(32B6	FAPD32T050I	FAPD32T050I	1	
20	SPEAKER BRACKET(32B6	FAPD32T070I	FAPD32T070I	4	Change from 1 to 4
21	CH MOUNT BOSS(32XM6)	FAPE32T060I	FAPD32T060I	2	Change from 4 to 2
22	SPONGE CR4305	FHRE40T085I	FHRE40T085I	2	Change from 2 to 1
23	ACETIC ACID TYPE	LCSE55T020I	LCSE55T020I	6	Change from 4 to 6

24	SCREW+LOCK WASHER(8)	MAA8002040I	MAA8002040I	6	6
25	SCREW	MAAT40001ZI	MAAT40001ZI	4	Change from 10 to 4
26	TAPPING SCREW	MAB300001ZI	MAB300001ZI	12	Change from 4 to 12
27	TAPPING SCREW	MABA000120I	MABA000120I	14	Change from 9 to 14
28	RATING NP-TC-L39B6P	EJ4PD39030I	EJ4PD39030I	1	Change from 8 to 1
29	CARTON-TC-L39B6P	HB4PD39030I	NA	1	
30	NA	NA	NA	NA	
31	ZIPPERED BAG	HK3OL77801I	HK3OL77801I	1	
32	PE BAG FOR TV	HK3PE39001I	HK3PE39001I	1	
33	SCRW-SEMS-W	MAA7000130I	MAA7000130I	4	Type B screw ; Update Q'ty from 1 to 4
34	SCREW	MAAF50001ZI	MAAF50001ZI	4	Type A screw ; Update Q'ty from 1 to 4
35	MANUAL KITS-39_50B6P	PK28PD3921I	PK28PD3921I	1	
36	PWR CORD(S)	GA18000030I	GA18000030I	1	Change from GA18000020I to GA18000030I
37	REMO CTRL AA	PK11V01870I	PK11V01870I	1	
38	PEDESTAL ASY (39EM6)	APPE39T040I	APPE39T040I	1	
39	STAND METAL	ECPD39T010I	ECPD39T010I	1	
40	EPS FOAM (T-L)	FJPD39T010I	FJPD39T010I	1	
41	EPS FOAM (T-R)	FJPD39T020I	FJPD39T020I	1	
42	EPS FOAM (B-L)	FJPD39T030I	FJPD39T030I	1	
43	EPS FOAM (B-R)	FJPD39T040I	FJPD39T040I	1	
44	EPS FOAM (T-M)	FJPD39T050I	FJPD39T050I	1	Update Q'ty from 4 to 1
45	EPS FOAM (B-M)	FJPD39T060I	FJPD39T060I	1	Update Q'ty from 4 to 1

APPENDIX-B: SPD39 Exploded View





Type A 4pcs
Type B 4pcs
36
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32
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43
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28
29

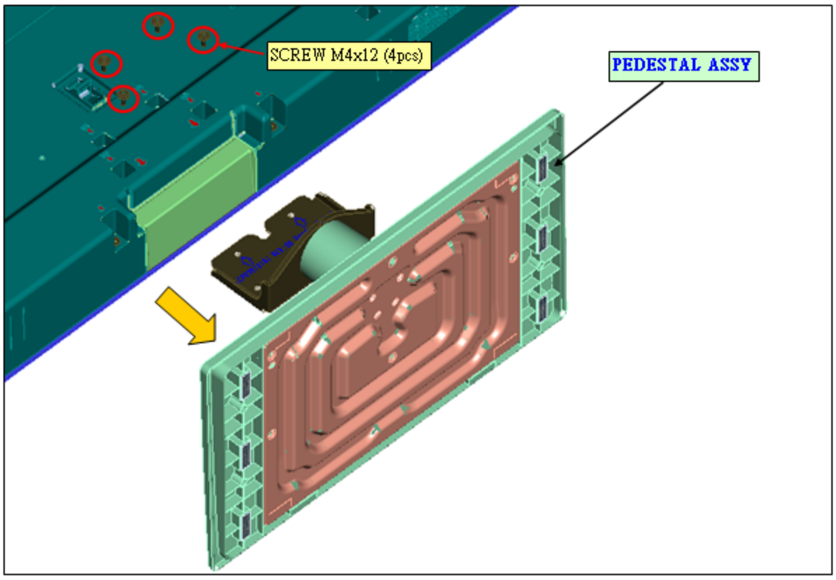
11 Disassembly and Assembly Instructions

11.1. PEDESTAL

1. Lay down the unit so that the rear cover faces upward.

2. Remove the 4 screws.

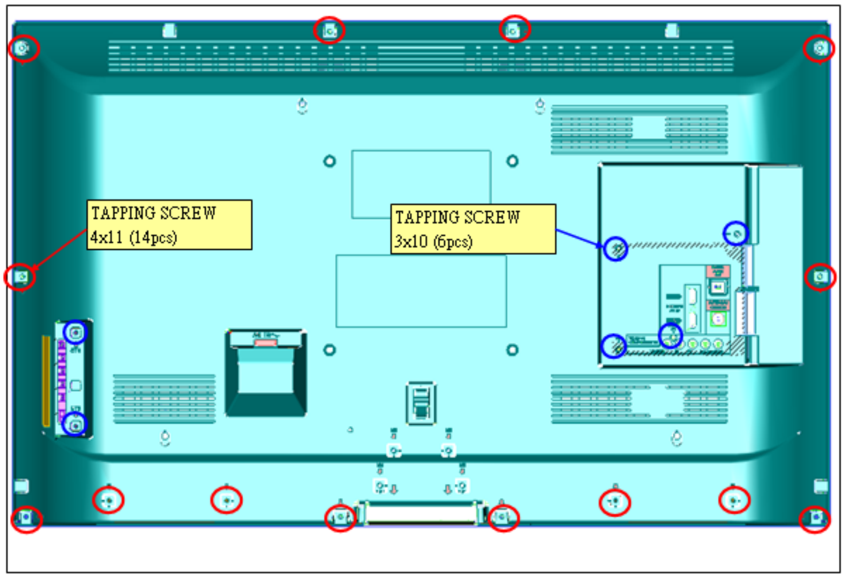
3. Remove the Pedestal_assy



11.2. Back cover

1. Remove the 20 screws.

2. Remove the Back cover.



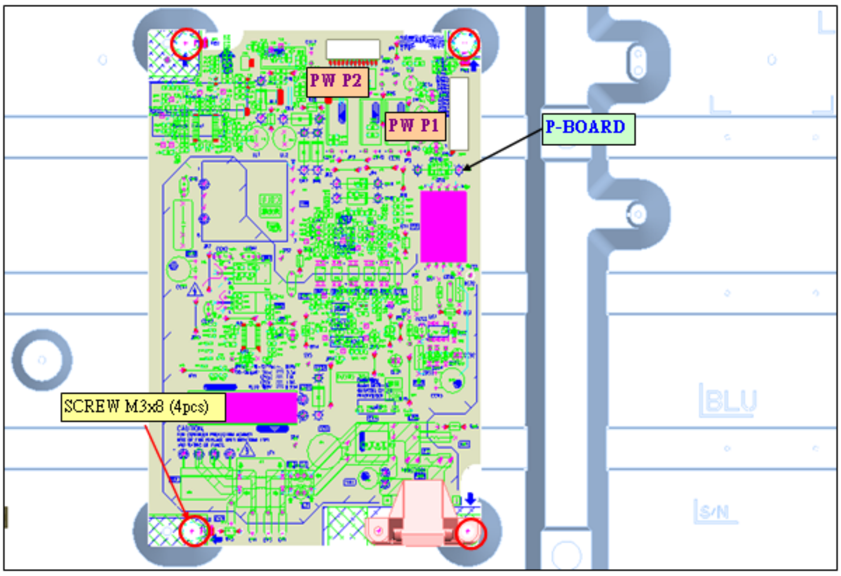
11.3. P-Board

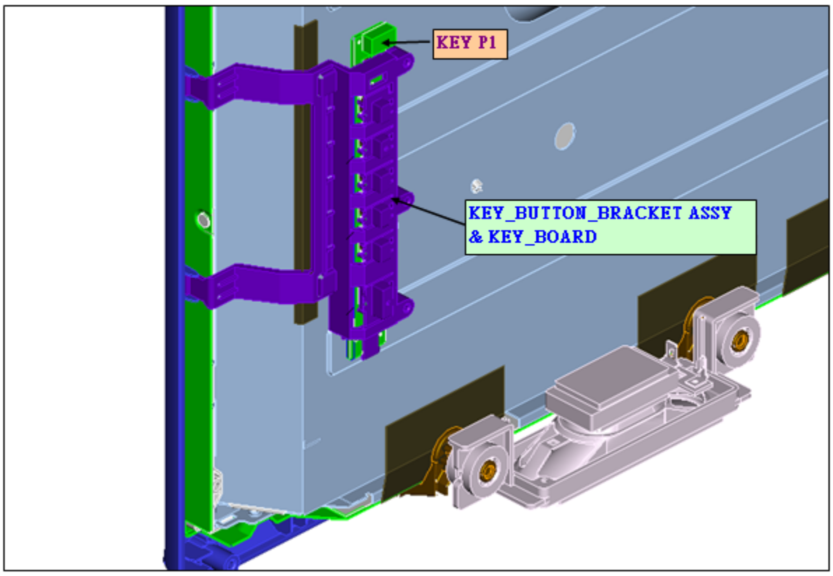
1. Remove the 4 screws.

2. Disconnect the key board connectors (P1) & P-board connectors (PW P1, PW P2)

3. Remove the P-Board.

4. Remove the key button bracket assy & key board.



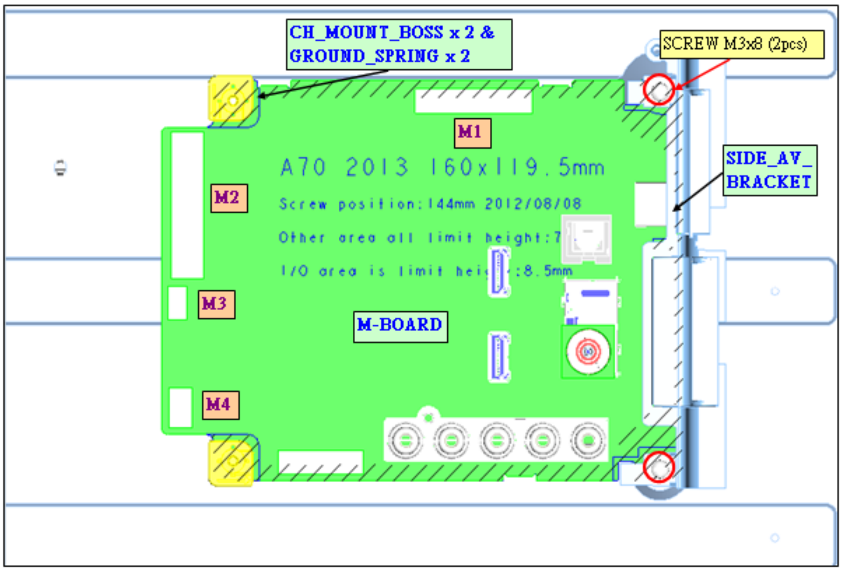


11.4. M-Board

1. Remove the 2 screws.

2. Disconnect the connectors (M1,M2, M3,M4).

3. Remove the M-Board. & Side AV Bracket

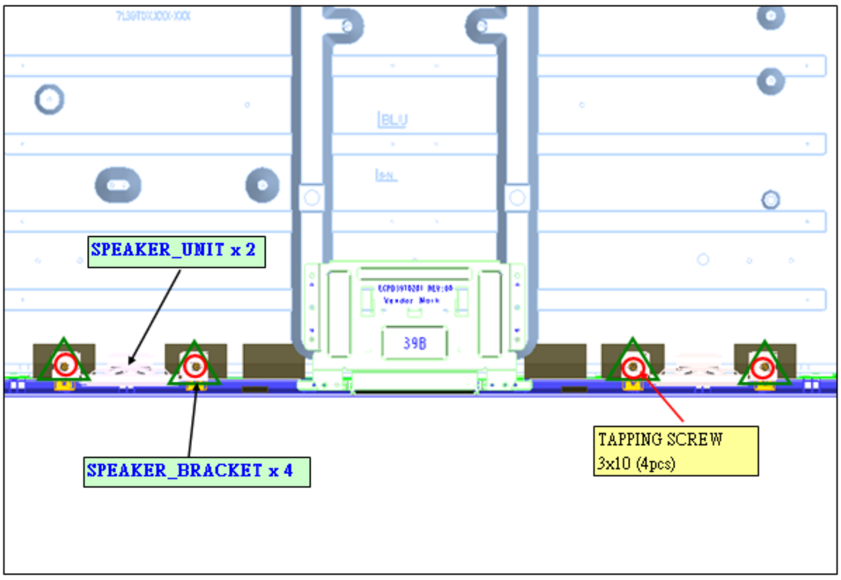


11.5. Speaker unit

1. Remove the speaker units.

2. Remove the 4 screws.

3. Remove the speaker bracket x 4pcs.

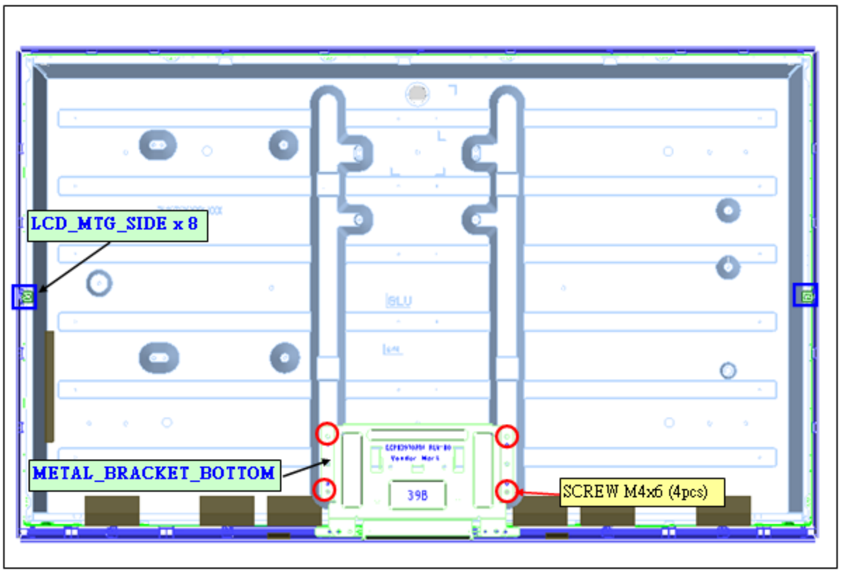


11.6. Metal parts

1. Remove the 4 screws.

3. Remove the metal (METAL_BRACKET_BOTTOM).

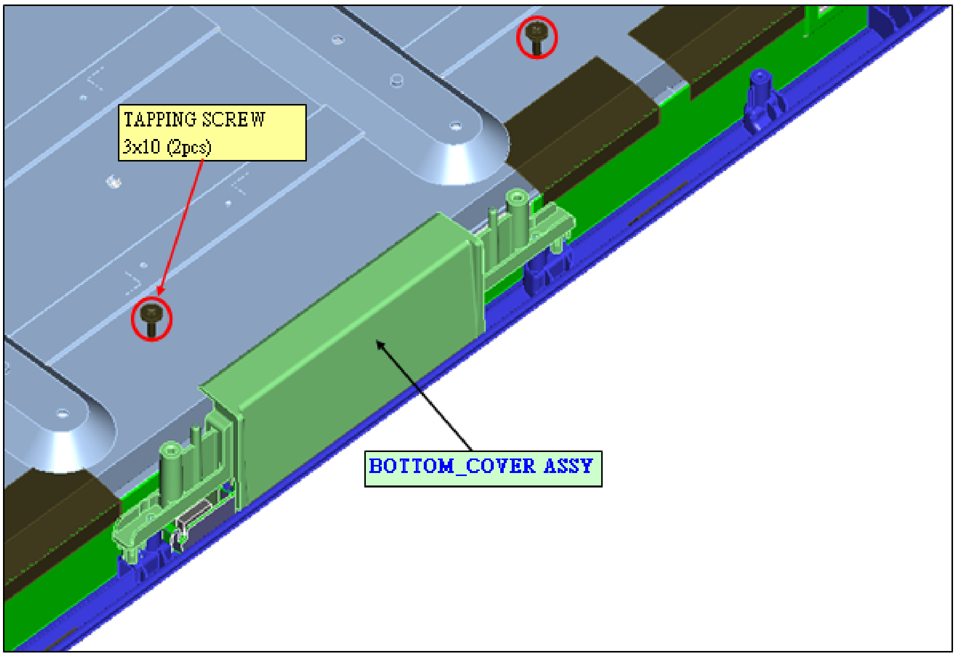
3. Remove the 2 metal (LCD_MTG_SIDE).



11.7. Bottom cover

1. Remove the 2 screws.

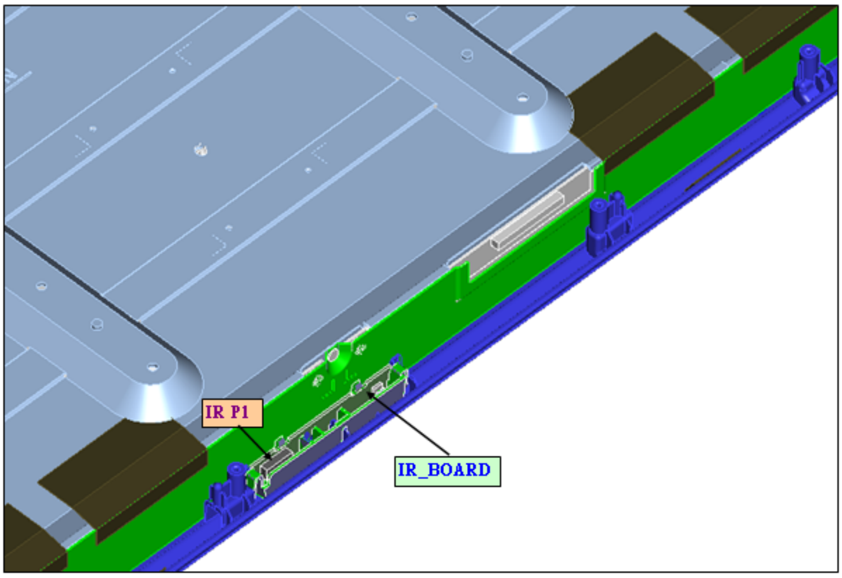
2. Remove the Bottom cover.



11.8. IR-Board

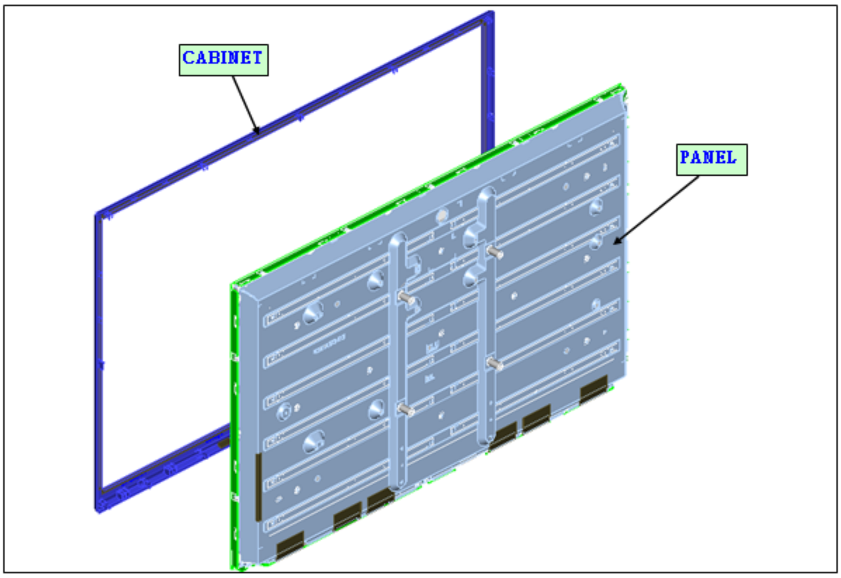
1. Disconnect the connectors (IR P1).

2. Remove the IR-Board.



11.9. LED Panel

1. Remove the LED panel.



PD39T SERVICE MANUAL CHANGE LIST

DATE	Page	VERSION	CHANGE ITEM
26 / Feb. 2013	50-55	01	Update the APPENDIX parts list